

Appendix C

APPENDIX C

WATER QUALITY RESULTS

Presented in Appendix C are the analytical water quality results for the Philadelphia Coke Company plant. Analytical results are compiled through seven quarters of sampling from April 10, 1986, to October 10, 1986. Original lab reports prepared by RMC Laboratories and chain of custody documentation are not included due to the large volume of data, but are available upon request.

The water quality results are divided into four sections including: Volatile Organics, Acid Extractables, Base/Neutral Extractables, and Water Quality Parameters. In addition to analytical results presented for monitoring wells W-1 through W-4, results from trip blanks (T blank), field blanks (F blank), and field duplicates (DUP) are also included.

In results for individual parameters, an ND indicates that the parameter was not detected. A less than symbol indicates that the parameter was detected but the concentration is below the detection limits of the analytical instrument. NS indicates that the parameter was not sampled/analyzed for.

WELL NUMBER

W-1

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
VOLATILES	CHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMOMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	VINYL CHLORIDE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	METHYLENE CHLORIDE	ug/l	ND	<1.0000	9.2000	ND	4.4000	<5.0000	ND
	ACROLEIN	ug/l	ND	ND	ND	ND	ND	<80.0000	ND
	ACRYLONITRILE	ug/l	ND	ND	ND	ND	ND	<80.0000	ND
	1,1-DICHLOROETHENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1-DICHLOROETHANE	ug/l	ND	ND	ND	ND	<1.0000	<5.0000	ND
	TRANS-1,2-DICHLOROETHENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CHLOROFORM	ug/l	ND	ND	ND	<1.0000	ND	<5.0000	ND
	1,2-DICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,1-TRICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CARBON TETRACHLORIDE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMODICHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,2-DICHLOROPROPANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,3-DICHLOROPROPENE	ug/l	ND	ND	ND	ND	ND	NS	ND
	TRICHLOROETHENE	ug/l	ND	ND	ND	ND	ND	NS	ND
	BENZENE	ug/l	ND	1.3000	ND	ND	ND	<5.0000	ND
	DIBROMOCHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,2-TRICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	2-CHLOROETHYL VINYL ETHER	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMOFORM	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	TETRACHLOROETHENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,2,2-TETRACHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	TOLUENE	ug/l	ND	0.2000	ND	7.7000	ND	<5.0000	ND
	CHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	ETHYLBENZENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND

WELL NUMBER

W-2

CATEGORY	PARAMETER	UNITS	DATE 04/10/85	DATE 06/26/85	DATE 10/15/85	DATE 01/23/86	DATE 04/24/86	DATE 07/29/86	DATE 10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
VOLATILES	CHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMOMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	VINYL CHLORIDE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	METHYLENE CHLORIDE	ug/l	6.2000	<1.0000	ND	ND	2.4000	<5.0000	ND
	ACROLEIN	ug/l	ND	ND	ND	ND	ND	<80.0000	ND
	ACRYLONITRILE	ug/l	ND	ND	ND	ND	ND	<80.0000	ND
	1,1-DICHLOROETHENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1-DICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	TRANS-1,2-DICHLOROETHENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CHLOROFORM	ug/l	ND	ND	<1.0000	ND	ND	<5.0000	ND
	1,2-DICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,1-TRICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CARBON TETRACHLORIDE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMODICHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,2-DICHLOROPROPANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,3-DICHLOROPROPENE	ug/l	ND	ND	ND	ND	ND	NS	ND
	TRICHLOROETHENE	ug/l	ND	<0.2000	ND	ND	ND	NS	ND
	BENZENE	ug/l	143.0000	234.0000	86.0000	ND	73.4000	490.0000	ND
	DIBROMOCHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,2-TRICHLOROETHANE	ug/l	ND	<5.0000	ND	ND	ND	<5.0000	ND
	2-CHLOROETHYL VINYL ETHER	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMOFORM	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	TETRACHLOROETHENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,2,2-TETRACHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	TOLUENE	ug/l	60.0000	76.0000	81.0000	ND	17.6000	59.4000	ND
	CHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	ETHYLBENZENE	ug/l	3.0000	5.1000	43.0000	ND	ND	16.8000	ND

WELL NUMBER W-2DUP

CATEGORY	PARAMETER	UNITS	DATE 04/24/86 CONCENTRATION
VOLATILES			
	CHLOROMETHANE	ug/l	ND
	BROMOMETHANE	ug/l	ND
	VINYL CHLORIDE	ug/l	ND
	CHLOROETHANE	ug/l	ND
	METHYLENE CHLORIDE	ug/l	2.1000
	ACROLEIN	ug/l	ND
	ACRYLONITRILE	ug/l	ND
	1,1-DICHLOROETHENE	ug/l	ND
	1,1-DICHLOROETHANE	ug/l	ND
	TRANS-1,2-DICHLOROETHENE	ug/l	ND
	CHLOROFORM	ug/l	ND
	1,2-DICHLOROETHANE	ug/l	ND
	1,1,1-TRICHLOROETHANE	ug/l	ND
	CARBON TETRACHLORIDE	ug/l	ND
	BROMODICHLOROMETHANE	ug/l	ND
	1,2-DICHLOROPROPANE	ug/l	ND
	1,3-DICHLOROPROPENE	ug/l	ND
	TRICHLOROETHENE	ug/l	ND
	BENZENE	ug/l	66.3000
	DIBROMOCHLOROMETHANE	ug/l	ND
	1,1,2-TRICHLOROETHANE	ug/l	ND
	2-CHLOROETHYL VINYL ETHER	ug/l	ND
	BROMOFORM	ug/l	ND
	TETRACHLOROETHENE	ug/l	ND
	1,1,2,2-TETRACHLOROETHANE	ug/l	ND
	TOLUENE	ug/l	15.0000
	CHLOROBENZENE	ug/l	ND
	ETHYLBENZENE	ug/l	6.2000

WELL NUMBER

W-3

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
VOLATILES									
	CHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMOMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	VINYL CHLORIDE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	METHYLENE CHLORIDE	ug/l	3.8000	<1.0000	ND	ND	6.1000	<5.0000	ND
	ACROLEIN	ug/l	ND	ND	ND	ND	ND	<80.0000	ND
	ACRYLONITRILE	ug/l	ND	ND	ND	ND	ND	<80.0000	ND
	1,1-DICHLOROETHENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1-DICHLOROETHANE	ug/l	ND	ND	ND	ND	<1.0000	<5.0000	ND
	TRANS-1,2-DICHLOROETHENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CHLOROFORM	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,2-DICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,1-TRICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CARBON TETRACHLORIDE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMODICHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,2-DICHLOROPROPANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,3-DICHLOROPROPENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	TRICHLOROETHENE	ug/l	ND	<0.2000	ND	ND	ND	NS	ND
	BENZENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	DIBROMOCHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,2-TRICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	2-CHLOROETHYL VINYL ETHER	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMOFORM	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	TETRACHLOROETHENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,2,2-TETRACHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	TOLUENE	ug/l	ND	<0.2000	ND	ND	ND	<5.0000	ND
	CHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	ETHYLBENZENE	ug/l	ND	<1.0000	ND	ND	ND	<5.0000	ND

WELL NUMBER W-3DUP

CATEGORY	PARAMETER	UNITS	DATE 10/15/85 CONCENTRATION
VOLATILES			
	CHLOROMETHANE	ug/l	ND
	BROMOMETHANE	ug/l	ND
	VINYL CHLORIDE	ug/l	ND
	CHLOROETHANE	ug/l	ND
	METHYLENE CHLORIDE	ug/l	ND
	ACROLEIN	ug/l	ND
	ACRYLONITRILE	ug/l	ND
	1,1-DICHLOROETHENE	ug/l	ND
	1,1-DICHLOROETHANE	ug/l	ND
	TRANS-1,2-DICHLOROETHENE	ug/l	ND
	CHLOROFORM	ug/l	ND
	1,2-DICHLOROETHANE	ug/l	ND
	1,1,1-TRICHLOROETHANE	ug/l	ND
	CARBON TETRACHLORIDE	ug/l	ND
	BROMODICHLOROMETHANE	ug/l	ND
	1,2-DICHLOROPROPANE	ug/l	ND
	1,3-DICHLOROPROPENE	ug/l	ND
	TRICHLOROETHENE	ug/l	ND
	BENZENE	ug/l	ND
	DIBROMOCHLOROMETHANE	ug/l	ND
	1,1,2-TRICHLOROETHANE	ug/l	ND
	2-CHLOROETHYL VINYL ETHER	ug/l	ND
	BROMOFORM	ug/l	ND
	TETRACHLOROETHENE	ug/l	ND
	1,1,2,2-TETRACHLOROETHANE	ug/l	ND
	TOLUENE	ug/l	ND
	CHLOROBENZENE	ug/l	ND
	ETHYLBENZENE	ug/l	ND

WELL NUMBER

W-4

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
VOLATILES	CHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMOMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	VINYL CHLORIDE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	METHYLENE CHLORIDE	ug/l	3.4000	<1.0000	ND	ND	ND	<5.0000	ND
	ACROLEIN	ug/l	ND	ND	ND	ND	ND	<80.0000	ND
	ACRYLONITRILE	ug/l	ND	ND	ND	ND	ND	<80.0000	ND
	1,1-DICHLOROETHENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1-DICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	TRANS-1,2-DICHLOROETHENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CHLOROFORM	ug/l	ND	ND	ND	<1.0000	ND	<5.0000	ND
	1,2-DICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,1-TRICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CARBON TETRACHLORIDE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMODICHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,2-DICHLOROPROPANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,3-DICHLOROPROPENE	ug/l	ND	ND	ND	ND	ND	NS	ND
	TRICHLOROETHENE	ug/l	ND	<0.2000	ND	ND	ND	NS	ND
	BENZENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	DIBROMOCHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,2-TRICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	2-CHLOROETHYL VINYL ETHER	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMOFORM	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	TETRACHLOROETHENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,2,2-TETRACHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	TOLUENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	ETHYLBENZENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND

WELL NUMBER FBLANK

CATEGORY	PARAMETER	UNITS	DATE 04/10/85	DATE 06/26/85	DATE 01/23/86	DATE 04/24/86	DATE 07/29/86	DATE 10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
VOLATILES	CHLOROMETHANE	ug/l	ND	ND	ND	ND	<5.0000	ND
	BROMOMETHANE	ug/l	ND	ND	ND	ND	<5.0000	ND
	VINYL CHLORIDE	ug/l	ND	ND	ND	ND	<5.0000	ND
	CHLOROETHANE	ug/l	ND	ND	ND	ND	<5.0000	ND
	METHYLENE CHLORIDE	ug/l	ND	<1.0000	ND	ND	16.0000	ND
	ACROLEIN	ug/l	ND	ND	ND	ND	<80.0000	ND
	ACRYLONITRILE	ug/l	ND	ND	ND	ND	<80.0000	ND
	1,1-DICHLOROETHENE	ug/l	<1.0000	ND	ND	ND	<5.0000	ND
	1,1-DICHLOROETHANE	ug/l	ND	ND	ND	<1.0000	<5.0000	ND
	TRANS-1,2-DICHLOROETHENE	ug/l	ND	ND	ND	ND	<5.0000	ND
	CHLOROFORM	ug/l	ND	<1.0000	ND	ND	<5.0000	ND
	1,2-DICHLOROETHANE	ug/l	ND	ND	ND	ND	<5.0000	ND
	1,1,1-TRICHLOROETHANE	ug/l	<1.0000	<1.0000	ND	ND	<5.0000	ND
	CARBON TETRACHLORIDE	ug/l	ND	ND	ND	ND	<5.0000	ND
	BROMODICHLOROMETHANE	ug/l	ND	ND	ND	ND	<5.0000	ND
	1,2-DICHLOROPROPANE	ug/l	ND	ND	ND	ND	<5.0000	ND
	1,3-DICHLOROPROPENE	ug/l	ND	ND	ND	ND	NS	ND
	TRICHLOROETHENE	ug/l	ND	<0.2000	ND	ND	NS	ND
	BENZENE	ug/l	ND	ND	ND	ND	<5.0000	ND
	DIBROMOCHLOROMETHANE	ug/l	ND	ND	ND	ND	<5.0000	ND
	1,1,2-TRICHLOROETHANE	ug/l	ND	ND	ND	ND	<5.0000	ND
	2-CHLOROETHYL VINYL ETHER	ug/l	ND	ND	ND	ND	<5.0000	ND
	BROMOFORM	ug/l	ND	ND	ND	ND	<5.0000	ND
	TETRACHLOROETHENE	ug/l	<1.0000	<1.0000	ND	ND	<5.0000	ND
	1,1,2,2-TETRACHLOROETHANE	ug/l	ND	ND	ND	ND	<5.0000	ND
	TOLUENE	ug/l	ND	0.2000	ND	ND	<5.0000	ND
	CHLOROBENZENE	ug/l	ND	ND	ND	ND	<5.0000	ND
	ETHYLBENZENE	ug/l	ND	<1.0000	ND	ND	<5.0000	ND

WELL NUMBER

TBLANK

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
VOLATILES	CHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMOMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	VINYL CHLORIDE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	METHYLENE CHLORIDE	ug/l	ND	<1.0000	ND	ND	ND	<5.0000	ND
	ACROLEIN	ug/l	ND	ND	ND	ND	ND	<80.0000	ND
	ACRYLONITRILE	ug/l	ND	ND	ND	ND	ND	<80.0000	ND
	1,1-DICHLOROETHENE	ug/l	1.2000	<1.0000	ND	ND	ND	<5.0000	ND
	1,1-DICHLOROETHANE	ug/l	ND	ND	ND	ND	<1.0000	<5.0000	ND
	TRANS-1,2-DICHLOROETHENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	CHLOROFORM	ug/l	ND	1.0000	ND	ND	1.2000	<5.0000	ND
	1,2-DICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,1-TRICHLOROETHANE	ug/l	<1.0000	<1.0000	<1.0000	ND	ND	<5.0000	ND
	CARBON TETRACHLORIDE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMODICHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,2-DICHLOROPROPANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,3-DICHLOROPROPENE	ug/l	ND	ND	ND	ND	ND	NS	ND
	TRICHLOROETHENE	ug/l	ND	ND	ND	ND	ND	NS	ND
	BENZENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	DIBROMOCHLOROMETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	1,1,2-TRICHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	2-CHLOROETHYL VINYL ETHER	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	BROMOFORM	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	TETRACHLOROETHENE	ug/l	2.7000	<1.0000	ND	ND	ND	<5.0000	ND
	1,1,2,2-TETRACHLOROETHANE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND
	TOLUENE	ug/l	0.3000	<0.2000	<0.2000	ND	ND	<5.0000	ND
	CHLOROBENZENE	ug/l	<1.0000	ND	ND	ND	ND	<5.0000	ND
	ETHYLBENZENE	ug/l	ND	ND	ND	ND	ND	<5.0000	ND

WELL NUMBER

W-1

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
ACIDS	PHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-CHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-NITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4-DIMETHYLPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4-DICHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	4-CHLORO-3-METHYLPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4,6-TRICHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4-DINITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	4-NITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-METHYL-4,6-DINITROPHENOL	ug/l	ND	ND	ND	ND	ND	NS	ND
PENTACHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND	

WELL NUMBER

W-2

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	
ACIDS	PHENOL	ug/l	2710.0000	21.0000	ND	167.0000	ND	ND	170.0000
	2-CHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-NITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4-DIMETHYLPHENOL	ug/l	27600.0000	255.0000	ND	479.0000	10.1000	663.0000	104.0000
	2,4-DICHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	4-CHLORO-3-METHYLPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4,6-TRICHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4-DINITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	4-NITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-METHYL-4,6-DINITROPHENOL	ug/l	ND	ND	ND	ND	ND	NS	ND
	PENTACHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND

WELL NUMBER

W-2DUP

CATEGORY	PARAMETER	UNITS	DATE 04/24/86 CONCENTRATION
ACIDS	PHENOL	ug/l	ND
	2-CHLOROPHENOL	ug/l	ND
	2-NITROPHENOL	ug/l	<10.0000
	2,4-DIMETHYLPHENOL	ug/l	ND
	2,4-DICHLOROPHENOL	ug/l	ND
	4-CHLORO-3-METHYLPHENOL	ug/l	ND
	2,4,6-TRICHLOROPHENOL	ug/l	ND
	2,4-DINITROPHENOL	ug/l	ND
	4-NITROPHENOL	ug/l	ND
	2-METHYL-4,6-DINITROPHENOL	ug/l	ND
	PENTACHLOROPHENOL	ug/l	ND

WELL NUMBER

W 3

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
ARFDS	PHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-CHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	1-NITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4-DIMETHYLPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4-DICHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	4-CHLORO-3-METHYLPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4,6-TRICHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4-DINITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	4-NITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-METHYL-4,6-DINITROPHENOL	ug/l	ND	ND	ND	ND	ND	NS	ND
	PENTACHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND

WELL NUMBER

W-3DUP

CATEGORY	PARAMETER	UNITS	DATE
			10/15/85
			CONCENTRATION
ACIDS			
	PHENOL	ug/l	ND
	2-CHLOROPHENOL	ug/l	ND
	2-NITROPHENOL	ug/l	ND
	2,4-DIMETHYLPHENOL	ug/l	ND
	2,4-DICHLOROPHENOL	ug/l	ND
	4-CHLORO-3-METHYLPHENOL	ug/l	ND
	2,4,6-TRICHLOROPHENOL	ug/l	ND
	2,4-DINITROPHENOL	ug/l	ND
	4-NITROPHENOL	ug/l	ND
	2-METHYL-4,6-DINITROPHENOL	ug/l	ND
	PENTACHLOROPHENOL	ug/l	ND

WELL NUMBER

W-4

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
ACIDS	PHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-CHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-NITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4-DIMETHYLPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4-DICHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	4-CHLORO-3-METHYLPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4,6-TRICHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4-DINITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	4-NITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-METHYL-4,6-DINITROPHENOL	ug/l	ND	ND	ND	ND	ND	NS	ND
PENTACHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND	ND	

WELL NUMBER FBLANK

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
ACIDS	PHENOL	ug/l	ND	ND	ND	ND	ND	ND
	2-CHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND
	2-NITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND
	2,4-DIMETHYLPHENOL	ug/l	ND	ND	ND	ND	ND	ND
	2,4-DICHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND
	4-CHLORO-3-METHYLPHENOL	ug/l	ND	ND	ND	ND	ND	ND
	2,4,6-TRICHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND
	2,4-DINITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND
	4-NITROPHENOL	ug/l	ND	ND	ND	ND	ND	ND
	2-METHYL-4,6-DINITROPHENOL	ug/l	ND	ND	ND	ND	NS	ND
	PENTACHLOROPHENOL	ug/l	ND	ND	ND	ND	ND	ND

WELL NUMBER

TBLANK

CATEGORY	PARAMETER	UNITS	DATE 04/10/85	DATE 06/26/85	DATE 10/15/85	DATE 01/23/86	DATE 04/24/86	DATE 07/29/86	DATE 10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
ACIDS	PHENOL	ug/l	NS	NS	NS	NS	ND	NS	NS
	2-CHLOROPHENOL	ug/l	NS	NS	NS	NS	ND	NS	NS
	2-NITROPHENOL	ug/l	NS	NS	NS	NS	ND	NS	NS
	2,4-DIMETHYLPHENOL	ug/l	NS	NS	NS	NS	ND	NS	NS
	2,4-DICHLOROPHENOL	ug/l	NS	NS	NS	NS	ND	NS	NS
	4-CHLORO-3-METHYLPHENOL	ug/l	NS	NS	NS	NS	ND	NS	NS
	2,4,6-TRICHLOROPHENOL	ug/l	NS	NS	NS	NS	ND	NS	NS
	2,4-DINITROPHENOL	ug/l	NS	NS	NS	NS	ND	NS	NS
	4-NITROPHENOL	ug/l	NS	NS	NS	NS	ND	NS	NS
	2-METHYL-4,6-DINITROPHENOL	ug/l	NS	NS	NS	NS	ND	NS	NS
	PENTACHLOROPHENOL	ug/l	NS	NS	NS	NS	ND	NS	NS

WELL NUMBER W-1

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
BASE/NEUTRALS	N-NITROSODIMETHYLAMINE	ug/l	ND	ND	ND	ND	ND	NS	NS
	BIS(2-CHLOROETHYL)ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,3-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,4-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,2-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BIS(2-CHLOROISOPROPYL)ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	HEXACHLOROETHANE	ug/l	ND	ND	ND	ND	ND	ND	ND
	N-NITROSODI-N-PROPYLAMINE	ug/l	ND	ND	ND	ND	ND	ND	ND
	NITROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	ISOPHORONE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BIS(2-CHLOROETHOXY)METHANE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,2,4-TRICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	NAPHTHALENE	ug/l	<5.0000	<5.0000	ND	ND	ND	ND	ND
	HEXACHLOROBUTADIENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	HEXACHLOROCYCLOPENTADIENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-CHLORONAPHTHALENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	ACENAPHTHYLENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	DIMETHYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,6-DINITROTOLUENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	ACENAPHTHENE	ug/l	ND	84.0000	ND	ND	ND	ND	ND
	2,4-DINITROTOLUENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	FLUORENE	ug/l	ND	<5.0000	ND	ND	ND	ND	ND
	DIETHYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	4-CHLOROPHENYL PHENYL ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	N-NITROSODIPHENYLAMINE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,2-DIPHENYLHYDRAZINE	ug/l	ND	ND	ND	ND	ND	NS	ND
	4-BROMOPHENYL PHENYL ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	HEXACHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	PHENANTHRENE	ug/l	ND	13.0000	ND	ND	ND	ND	ND
	ANTHRACENE	ug/l	ND	ND	10.3000	ND	ND	ND	ND
	DI-N-BUTYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	FLUORANTHENE	ug/l	<5.0000	ND	21.0000	ND	ND	NS	ND
	BENZIDINE	ug/l	ND	ND	ND	ND	ND	ND	NS
	PYRENE	ug/l	<5.0000	9.5000	11.0000	ND	ND	ND	ND
	BUTYL BENZYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(A)ANTHRACENE	ug/l	<10.0000	14.0000	<10.0000	ND	ND	ND	ND
	CHRYSENE	ug/l	<10.0000	ND	<10.0000	ND	ND	ND	ND
	3,3'-DICHLOROBENZIDINE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	<5.0000	6.7000	ND	<5.0000	ND	ND	ND
	DI-N-OCTYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(B)FLUORANTHENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(K)FLUORANTHENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(A)PYRENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	INDENO(1,2,3-C,D)PYRENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	DIBENZO(A,H)ANTHRACENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(G,H,I)PERYLENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,3,7,8-TETRACHLORODIBENZO-P-D	ug/l	ND	ND	ND	ND	ND	NS	ND

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
BASE/NEUTRALS	N-NITROSODIMETHYLAMINE	ug/l	ND	ND	ND	ND	ND	NS	NS
	BIS(2-CHLOROETHYL)ETHER	ug/l	ND	33.0000	ND	ND	ND	ND	15.0000
	1,3-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,4-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,2-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BIS(2-CHLOROISOPROPYL)ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	HEXACHLOROETHANE	ug/l	ND	ND	ND	83.0000	ND	ND	ND
	N-NITROSODI-N-PROPYLAMINE	ug/l	ND	ND	ND	ND	ND	ND	ND
	NITROBENZENE	ug/l	90.0000	ND	ND	ND	ND	ND	ND
	ISOPHORONE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BIS(2-CHLOROETHOXY)METHANE	ug/l	15.0000	ND	ND	ND	ND	ND	ND
	1,2,4-TRICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	NAPHTHALENE	ug/l	ND	116.0000	497.0000	420.0000	339.0000	64.0000	1180.0000
	HEXACHLOROBUTADIENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	HEXACHLOROCYCLOPENTADIENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-CHLORONAPHTHALENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	ACENAPHTHYLENE	ug/l	ND	32.0000	56.0000	22.0000	ND	<7.0000	13.0000
	DIMETHYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,6-DINITROTOLUENE	ug/l	ND	ND	ND	ND	10.6000	ND	ND
	ACENAPHTHENE	ug/l	ND	76.0000	15.0000	8.0000	ND	ND	11.0000
	2,4-DINITROTOLUENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	FLUORENE	ug/l	ND	58.0000	120.0000	45.0000	ND	29.0000	35.0000
	DIETHYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	4-CHLOROPHENYL PHENYL ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	N-NITROSODIPHENYLAMINE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,2-DIPHENYLHYDRAZINE	ug/l	ND	ND	ND	ND	ND	NS	ND
	4-BROMOPHENYL PHENYL ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	HEXACHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	PHENANTHRENE	ug/l	ND	14.0000	347.0000	36.0000	ND	93.0000	91.0000
	ANTHRACENE	ug/l	ND	ND	ND	ND	ND	ND	12.0000
	DI-N-BUTYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	FLUORANTHENE	ug/l	ND	ND	191.0000	12.0000	ND	31.0000	28.0000
	BENZIDINE	ug/l	ND	ND	ND	ND	ND	NS	NS
	PYRENE	ug/l	ND	6.5000	126.0000	9.0000	ND	20.0000	19.0000
	BUTYL BENZYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(A)ANTHRACENE	ug/l	ND	25.0000	ND	ND	ND	ND	ND
	CHRYSENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	3,3'-DICHLOROBENZIDINE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	ND	ND	ND	<5.0000	ND	ND	ND
	DI-N-OCTYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(B)FLUORANTHENE	ug/l	ND	ND	<32.0000	<25.0000	ND	ND	ND
	BENZO(K)FLUORANTHENE	ug/l	ND	ND	<32.0000	ND	ND	ND	ND
	BENZO(A)PYRENE	ug/l	ND	ND	96.0000	<25.0000	ND	ND	ND
	INDENO(1,2,3-C,D)PYRENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	DIBENZO(A,H)ANTHRACENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(G,H,I)PERYLENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,3,7,8-TETRACHLORODIBENZO-P-D	ug/l	ND	ND	ND	ND	ND	NS	ND

WELL NUMBER W-2DUP

CATEGORY	PARAMETER	UNITS	DATE
			04/24/86
			CONCENTRATION
BASE/NEUTRALS			
	N-NITROSODIMETHYLAMINE	ug/l	ND
	BIS(2-CHLOROETHYL)ETHER	ug/l	ND
	1,3-DICHLOROBENZENE	ug/l	ND
	1,4-DICHLOROBENZENE	ug/l	ND
	1,2-DICHLOROBENZENE	ug/l	ND
	BIS(2-CHLOROISOPROPYL)EYHER	ug/l	ND
	HEXACHLOROETHANE	ug/l	ND
	N-NITROSODI-N-PROPYLAMINE	ug/l	ND
	NITROBENZENE	ug/l	ND
	ISOPHORONE	ug/l	ND
	BIS(2-CHLOROETHOXY)METHANE	ug/l	ND
	1,2,4-TRICHLOROBENZENE	ug/l	ND
	NAPHTHALENE	ug/l	517.0000
	HEXACHLOROBUTADIENE	ug/l	ND
	HEXACHLOROCYCLOPENTADIENE	ug/l	ND
	2-CHLORONAPHTHALENE	ug/l	ND
	ACENAPHTHYLENE	ug/l	ND
	DIMETHYL PHTHALATE	ug/l	ND
	2,6-DINITROTOLUENE	ug/l	17.0000
	ACENAPHTHENE	ug/l	ND
	2,4-DINITROTOLUENE	ug/l	ND
	FLUORENE	ug/l	ND
	DIETHYL PHTHALATE	ug/l	ND
	4-CHLOROPHENYL PHENYL ETHER	ug/l	ND
	N-NITROSODIPHENYLAMINE	ug/l	ND
	1,2-DIPHENYLHYDRAZINE	ug/l	ND
	4-BROMOPHENYL PHENYL ETHER	ug/l	ND
	HEXACHLOROBENZENE	ug/l	ND
	PHENANTHRENE	ug/l	19.5000
	ANTHRACENE	ug/l	ND
	DI-N-BUTYL PHTHALATE	ug/l	16.7000
	FLUORANTHENE	ug/l	ND
	BENZIDINE	ug/l	ND
	PYRENE	ug/l	ND
	BUTYL BENZYL PHTHALATE	ug/l	ND
	BENZO(A)ANTHRACENE	ug/l	ND
	CHRYSENE	ug/l	ND
	3,3'-DICHLOROBENZIDINE	ug/l	ND
	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	ND
	DI-N-OCTYL PHTHALATE	ug/l	ND
	BENZO(B)FLUORANTHENE	ug/l	ND
	BENZO(K)FLUORANTHENE	ug/l	ND
	BENZO(A)PYRENE	ug/l	ND
	INDENO(1,2,3-C,D)PYRENE	ug/l	ND
	DIBENZO(A,H)ANTHRACENE	ug/l	ND
	BENZO(G,H,I)PERYLENE	ug/l	ND
	2,3,7,8-TETRACHLORODIBENZO-P-D	ug/l	ND

WELL NUMBER W-3

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
BASE/NEUTRALS	N-NITROSODIMETHYLAMINE	ug/l	ND	ND	ND	ND	ND	NS	NS
	BIS(2-CHLOROETHYL)ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,3-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,4-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,2-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BIS(2-CHLOROISOPROPYL)ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	HEXACHLOROETHANE	ug/l	ND	ND	ND	ND	ND	ND	ND
	N-NITROSODI-N-PROPYLAMINE	ug/l	ND	ND	ND	ND	ND	ND	ND
	NITROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	ISOPHORONE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BIS(2-CHLOROETHOXY)METHANE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,2,4-TRICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	NAPHTHALENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	HEXACHLOROBUTADIENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	HEXACHLOROCYCLOPENTADIENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-CHLORONAPHTHALENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	ACENAPHTHYLENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	DIMETHYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,6-DINITROTOLUENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	ACENAPHTHENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4-DINITROTOLUENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	FLUORENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	DIETHYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	4-CHLOROPHENYL PHENYL ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	N-NITROSODIPHENYLAMINE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,2-DIPHENYLHYDRAZINE	ug/l	ND	ND	ND	ND	ND	NS	ND
	4-BROMOPHENYL PHENYL ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	HEXACHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	PHENANTHRENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	ANTHRACENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	DI-N-BUTYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	FLUORANTHENE	ug/l	ND	ND	ND	ND	ND	NS	ND
	BENZIDINE	ug/l	ND	ND	ND	ND	ND	ND	NS
	PYRENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BUTYL BENZYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(A)ANTHRACENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	CHRYSENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	3,3'-DICHLOROBENZIDINE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	12.0000	ND	ND	<5.0000	ND	ND	ND
	DI-N-OCTYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(B)FLUORANTHENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(K)FLUORANTHENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(A)PYRENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	INDENO(1,2,3-C,D)PYRENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	DIBENZO(A,H)ANTHRACENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(G,H,I)PERYLENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,3,7,8-TETRACHLORODIBENZO-P-D	ug/l	ND	ND	ND	ND	ND	NS	ND

WELL NUMBER W-30UP

CATEGORY	PARAMETER	UNITS	DATE 10/15/85 CONCENTRATION
BASE/NEUTRALS			
	N-NITROSODIMETHYLAMINE	ug/l	ND
	BIS(2-CHLOROETHYL)ETHER	ug/l	ND
	1,3-DICHLOROBENZENE	ug/l	ND
	1,4-DICHLOROBENZENE	ug/l	ND
	1,2-DICHLOROBENZENE	ug/l	ND
	BIS(2-CHLOROISOPROPYL)ETHER	ug/l	ND
	HEXACHLOROETHANE	ug/l	ND
	N-NITROSODI-N-PROPYLAMINE	ug/l	ND
	NITROBENZENE	ug/l	ND
	ISOPHORONE	ug/l	ND
	BIS(2-CHLOROETHOXY)METHANE	ug/l	ND
	1,2,4-TRICHLOROBENZENE	ug/l	ND
	NAPHTHALENE	ug/l	ND
	HEXACHLOROBUTADIENE	ug/l	ND
	HEXACHLOROCYCLOPENTADIENE	ug/l	ND
	2-CHLORONAPHTHALENE	ug/l	ND
	ACENAPHTHYLENE	ug/l	ND
	DIMETHYL PHTHALATE	ug/l	ND
	2,6-DINITROTOLUENE	ug/l	ND
	ACENAPHTHENE	ug/l	ND
	2,4-DINITROTOLUENE	ug/l	ND
	FLUORENE	ug/l	ND
	DIETHYL PHTHALATE	ug/l	ND
	4-CHLOROPHENYL PHENYL ETHER	ug/l	ND
	N-NITROSODIPHENYLAMINE	ug/l	ND
	1,2-DIPHENYLHYDRAZINE	ug/l	ND
	4-BROMOPHENYL PHENYL ETHER	ug/l	ND
	HEXACHLOROBENZENE	ug/l	ND
	PHENANTHRENE	ug/l	ND
	ANTHRACENE	ug/l	ND
	DI-N-BUTYL PHTHALATE	ug/l	ND
	FLUORANTHENE	ug/l	ND
	BENZIDINE	ug/l	ND
	PYRENE	ug/l	ND
	BUTYL BENZYL PHTHALATE	ug/l	ND
	BENZO(A)ANTHRACENE	ug/l	ND
	CHRYSENE	ug/l	ND
	3,3'-DICHLOROBENZIDINE	ug/l	ND
	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	ND
	DI-N-OCTYL PHTHALATE	ug/l	ND
	BENZO(B)FLUORANTHENE	ug/l	ND
	BENZO(K)FLUORANTHENE	ug/l	ND
	BENZO(A)PYRENE	ug/l	ND
	INDENO(1,2,3-C,D)PYRENE	ug/l	ND
	DIBENZO(A,H)ANTHRACENE	ug/l	ND
	BENZO(G,H,I)PERYLENE	ug/l	ND
	2,3,7,8-TETRACHLORODIBENZO-P-D	ug/l	ND

WELL NUMBER

W-4

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
BASE/NEUTRALS	N-NITROSODIMETHYLAMINE	ug/l	ND	ND	ND	ND	ND	NS	NS
	BIS(2-CHLOROETHYL)ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,3-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,4-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,2-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BIS(2-CHLOROISOPROPYL)ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	HEXACHLOROETHANE	ug/l	ND	ND	ND	ND	ND	ND	ND
	N-NITROSODI-N-PROPYLAMINE	ug/l	ND	ND	ND	ND	ND	ND	ND
	NITROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	ISOPHORONE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BIS(2-CHLOROETHOXY)METHANE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,2,4-TRICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	NAPHTHALENE	ug/l	<5.0000	ND	ND	ND	ND	ND	ND
	HEXACHLOROBUTADIENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	HEXACHLOROCYCLOPENTADIENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2-CHLORONAPHTHALENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	ACENAPHTHYLENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	DIMETHYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,6-DINITROTOLUENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	ACENAPHTHENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,4-DINITROTOLUENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	FLUORENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	DIETHYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	4-CHLOROPHENYL PHENYL ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	N-NITROSODIPHENYLAMINE	ug/l	ND	ND	ND	ND	ND	ND	ND
	1,2-DIPHENYLHYDRAZINE	ug/l	ND	ND	ND	ND	ND	NS	ND
	4-BROMOPHENYL PHENYL ETHER	ug/l	ND	ND	ND	ND	ND	ND	ND
	HEXACHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	PHENANTHRENE	ug/l	<5.0000	ND	ND	ND	ND	ND	ND
	ANTHRACENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	DI-N-BUTYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	FLUORANTHENE	ug/l	<5.0000	ND	ND	ND	ND	ND	ND
	BENZIDINE	ug/l	ND	ND	ND	ND	ND	NS	NS
	PYRENE	ug/l	<5.0000	ND	ND	ND	ND	ND	ND
	BUTYL BENZYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(A)ANTHRACENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	CHRYSENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	3,3'-DICHLOROBENZIDINE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	8.5000	5.8000	<5.0000	<5.0000	ND	ND	ND
	DI-N-OCTYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(B)FLUORANTHENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(K)FLUORANTHENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(A)PYRENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	INDENO(1,2,3-C,D)PYRENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	DIBENZO(A,H)ANTHRACENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	BENZO(G,H,I)PERYLENE	ug/l	ND	ND	ND	ND	ND	ND	ND
	2,3,7,8-TETRACHLORODIBENZO-P-D	ug/l	ND	ND	ND	ND	ND	NS	ND

WELL NUMBER

FBLANK

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
BASE/NEUTRALS	N-NITROSODIMETHYLAMINE	ug/l	ND	ND	ND	ND	NS	NS
	BIS(2-CHLOROETHYL)ETHER	ug/l	ND	ND	ND	ND	ND	ND
	1,3-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND
	1,4-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND
	1,2-DICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND
	BIS(2-CHLOROISOPROPYL)ETHER	ug/l	ND	ND	ND	ND	ND	ND
	HEXACHLOROETHANE	ug/l	ND	ND	ND	ND	ND	ND
	N-NITROSODI-N-PROPYLAMINE	ug/l	ND	ND	ND	ND	ND	ND
	NITROBENZENE	ug/l	ND	ND	ND	ND	ND	ND
	ISOPHORONE	ug/l	ND	ND	ND	ND	ND	ND
	BIS(2-CHLOROETHOXY)METHANE	ug/l	ND	ND	ND	ND	ND	ND
	1,2,4-TRICHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND
	NAPHTHALENE	ug/l	ND	ND	ND	ND	ND	ND
	HEXACHLOROBUTADIENE	ug/l	ND	ND	ND	ND	ND	ND
	HEXACHLOROCYCLOPENTADIENE	ug/l	ND	ND	ND	ND	ND	ND
	2-CHLORONAPHTHALENE	ug/l	ND	ND	ND	ND	ND	ND
	ACENAPHTHYLENE	ug/l	ND	ND	ND	ND	ND	ND
	DIMETHYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND
	2,6-DINITROTOLUENE	ug/l	ND	ND	ND	ND	ND	ND
	ACENAPHTHENE	ug/l	ND	ND	ND	ND	ND	ND
	2,4-DINITROTOLUENE	ug/l	ND	ND	ND	ND	ND	ND
	FLUORENE	ug/l	ND	ND	ND	ND	ND	ND
	DIETHYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND
	4-CHLOROPHENYL PHENYL ETHER	ug/l	ND	ND	ND	ND	ND	ND
	N-NITROSODIPHENYLAMINE	ug/l	ND	ND	ND	ND	ND	ND
	1,2-DIPHENYLHYDRAZINE	ug/l	ND	ND	ND	ND	NS	ND
	4-BROMOPHENYL PHENYL ETHER	ug/l	ND	ND	ND	ND	ND	ND
	HEXACHLOROBENZENE	ug/l	ND	ND	ND	ND	ND	ND
	PHENANTHRENE	ug/l	ND	ND	ND	ND	ND	ND
	ANTHRACENE	ug/l	ND	ND	ND	ND	ND	ND
	DI-N-BUTYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND
	FLUORANTHENE	ug/l	ND	ND	ND	ND	ND	ND
	BENZIDINE	ug/l	ND	ND	ND	ND	NS	NS
	PYRENE	ug/l	ND	ND	ND	ND	ND	ND
	BUTYL BENZYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND
	BENZO(A)ANTHRACENE	ug/l	ND	ND	ND	ND	ND	ND
	CHRYSENE	ug/l	ND	ND	ND	ND	ND	ND
	3,3'-DICHLOROBENZIDINE	ug/l	ND	ND	ND	ND	ND	ND
	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	17.0000	ND	<5.0000	ND	ND	ND
	DI-N-OCTYL PHTHALATE	ug/l	ND	ND	ND	ND	ND	ND
	BENZO(B)FLUORANTHENE	ug/l	ND	ND	ND	ND	ND	ND
	BENZO(K)FLUORANTHENE	ug/l	ND	ND	ND	ND	ND	ND
	BENZO(A)PYRENE	ug/l	ND	ND	ND	ND	ND	ND
	INDENO(1,2,3-C,D)PYRENE	ug/l	ND	ND	ND	ND	ND	ND
	DIBENZO(A,H)ANTHRACENE	ug/l	ND	ND	ND	ND	ND	ND
	BENZO(G,H,I)PERYLENE	ug/l	ND	ND	ND	ND	ND	ND
	2,3,7,8-TETRACHLORODIBENZO-P-D	ug/l	ND	ND	ND	ND	NS	ND

WELL NUMBER TBLANK

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
BASE/NEUTRALS	N-NITROSODIMETHYLAMINE	ug/l	NS	NS	NS	NS	ND	NS	NS
	BIS(2-CHLOROETHYL)ETHER	ug/l	NS	NS	NS	NS	ND	NS	NS
	1,3-DICHLOROBENZENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	1,4-DICHLOROBENZENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	1,2-DICHLOROBENZENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	BIS(2-CHLOROISOPROPYL)ETHER	ug/l	NS	NS	NS	NS	ND	NS	NS
	HEXACHLOROETHANE	ug/l	NS	NS	NS	NS	ND	NS	NS
	N-NITROSODI-N-PROPYLAMINE	ug/l	NS	NS	NS	NS	ND	NS	NS
	NITROBENZENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	ISOPHORONE	ug/l	NS	NS	NS	NS	ND	NS	NS
	BIS(2-CHLOROETHOXY)METHANE	ug/l	NS	NS	NS	NS	ND	NS	NS
	1,2,4-TRICHLOROBENZENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	NAPHTHALENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	HEXACHLOROBUTADIENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	HEXACHLOROCYCLOPENTADIENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	2-CHLORONAPHTHALENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	ACENAPHTHYLENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	DIMETHYL PHTHALATE	ug/l	NS	NS	NS	NS	ND	NS	NS
	2,6-DINITROTOLUENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	ACENAPHTHENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	2,4-DINITROTOLUENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	FLUORENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	DIETHYL PHTHALATE	ug/l	NS	NS	NS	NS	ND	NS	NS
	4-CHLOROPHENYL PHENYL ETHER	ug/l	NS	NS	NS	NS	ND	NS	NS
	N-NITROSODIPHENYLAMINE	ug/l	NS	NS	NS	NS	ND	NS	NS
	1,2-DIPHENYLHYDRAZINE	ug/l	NS	NS	NS	NS	ND	NS	NS
	4-BROMOPHENYL PHENYL ETHER	ug/l	NS	NS	NS	NS	ND	NS	NS
	HEXACHLOROBENZENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	PHENANTHRENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	ANTHRACENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	DI-N-BUTYL PHTHALATE	ug/l	NS	NS	NS	NS	ND	NS	NS
	FLUORANTHENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	BENZIDINE	ug/l	NS	NS	NS	NS	ND	NS	NS
	PYRENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	BUTYL BENZYL PHTHALATE	ug/l	NS	NS	NS	NS	ND	NS	NS
	BENZO(A)ANTHRACENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	CHRYSENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	3,3'-DICHLOROBENZIDINE	ug/l	NS	NS	NS	NS	ND	NS	NS
	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	NS	NS	NS	NS	ND	NS	NS
	DI-N-OCTYL PHTHALATE	ug/l	NS	NS	NS	NS	ND	NS	NS
	BENZO(B)FLUORANTHENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	BENZO(K)FLUORANTHENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	BENZO(A)PYRENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	INDENO(1,2,3-C,D)PYRENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	DIBENZO(A,H)ANTHRACENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	BENZO(G,H,I)PERYLENE	ug/l	NS	NS	NS	NS	ND	NS	NS
	2,3,7,8-TETRACHLORODIBENZO-P-D	ug/l	NS	NS	NS	NS	ND	NS	NS

CATEGORY	PARAMETER	UNITS	DATE 04/10/85	DATE 06/26/85	DATE 10/15/85	DATE 01/23/86	DATE 04/24/86	DATE 07/29/86	DATE 10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
WQP	ALKALINITY	mg/l	73.1000	251.0000	62.9000	30.2000	49.8000	98.0000	61.4000
	AMMONIA	mg/l	56.0000	333.0000	42.0000	105.0000	135.0000	164.0000	107.0000
	COLIFORM, TOTAL	col/100m	100.0000	13.0000	<2.0000	<2.0000	NS	2.0000	<2.0000
	BIOCHEMICAL OXYGEN DEMAND	mg/l	6.6000	NS	5.6000	0.9000	2.2000	42.0000	2.5000
	TOTAL ORGANIC CARBON	mg/l	8.7000	5.9700	6.9200	2.7300	3.6300	2.8000	4.8000
	CHEMICAL OXYGEN DEMAND	mg/l	48.0000	573.0000	14.5000	50.4000	18.5000	66.0000	67.1000
	CHLORIDE	mg/l	27.8000	416.0000	13.2000	12.0000	11.6000	NS	NS
	CYANIDE	mg/l	1.5000	38.0000	0.0860	0.0450	0.0090	10.3000	<0.0050
	FLUORIDE	mg/l	0.9100	1.0000	0.7500	0.6900	0.8000	1.1200	2.6000
	ALUMINUM, DISSOLVED	mg/l	<0.5000	<0.5000	NS	NS	NS	NS	NS
	ARSENIC, DISSOLVED	mg/l	<0.0010	<0.0010	NS	NS	NS	NS	NS
	BARIUM, DISSOLVED	mg/l	<0.5000	0.5000	NS	NS	NS	NS	NS
	CHROMIUM, DISSOLVED	mg/l	0.0050	<0.0040	0.0010	<0.0010	<0.0010	<0.0010	0.0020
	IRON, DISSOLVED	mg/l	16.4000	49.0000	4.5000	<0.1000	<0.1000	1.4000	6.4000
	LEAD, DISSOLVED	mg/l	0.0030	<0.0010	NS	NS	NS	NS	NS
	MANGANESE, DISSOLVED	mg/l	9.4000	12.0000	6.1200	6.2100	6.0000	8.9000	8.5000
	MERCURY, DISSOLVED	mg/l	<0.0002	<0.0050	NS	NS	NS	NS	NS
	SELENIUM, DISSOLVED	mg/l	0.0050	0.0050	NS	NS	NS	NS	NS
	SILVER, DISSOLVED	mg/l	<0.0010	<0.0010	NS	NS	NS	NS	NS
	SODIUM, DISSOLVED	mg/l	29.4000	144.0000	13.0000	12.2000	13.3000	31.0000	19.0000
	NITRATE, NITROGEN	mg/l	2.2000	<0.0050	0.9700	1.2000	0.4400	1.0400	8.3000
	TOTAL ORGANIC HALOGENS	ug/l	215.0000	19.0000	<5.0000	<5.0000	93.0000	7.0000	18.0000
	2,4 - D	ug/l	<0.2500	<2.5000	NS	NS	NS	NS	NS
	2,4,5 - TP	ug/l	<0.2500	<10.0000	NS	NS	NS	NS	NS
	LINDANE	ug/l	<0.5000	<0.0030	NS	NS	NS	NS	NS
	ENDRIN	ug/l	<0.5000	<0.0220	NS	NS	NS	NS	NS
	METHOXYCHLOR	ug/l	<2.5000	<0.0490	NS	NS	NS	NS	NS
	TOXAPHENE	ug/l	<25.0000	<0.0980	NS	NS	NS	NS	NS
	TOTAL PHENOLS	mg/l	<0.0050	0.0100	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	PH	standard	6.6400	6.4000	6.4500	6.7100	6.9000	6.5500	6.2800
	TOTAL DISSOLVED SOLIDS	umhos/cm	1120.0000	2830.0000	1400.0000	1400.0000	1210.0000	1070.0000	1260.0000
	SPECIFIC CONDUCTANCE	mg/l	1470.0000	4094.0000	1620.0000	1670.0000	2020.0000	2690.0000	2120.0000
	SULFATE	mg/l	871.0000	1675.0000	990.0000	1020.0000	1040.0000	136.0000	1080.0000

WELL NUMBER

W-2

CATEGORY	PARAMETER	UNITS	DATE 04/10/85	DATE 06/26/85	DATE 10/15/85	DATE 01/23/86	DATE 04/24/86	DATE 07/29/86	DATE 10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
WQP	ALKALINITY	mg/l	1040.0000	1093.0000	709.0000	630.0000	391.0000	40.0000	1070.0000
	AMMONIA	mg/l	917.0000	1260.0000	1520.0000	682.0000	350.0000	1110.0000	1226.0000
	COLIFORM, TOTAL	col/100m	1800.0000	2400.0000	33.0000	<2.0000	NS	5.0000	350.0000
	BIOCHEMICAL OXYGEN DEMAND	mg/l	220.0000	NS	7.9000	515.0000	300.0000	120.0000	330.0000
	TOTAL ORGANIC CARBON	mg/l	5.6000	7.6700	4.5400	194.0000	109.0000	254.0000	371.0000
	CHEMICAL OXYGEN DEMAND	mg/l	1170.0000	1856.0000	1780.0000	1500.0000	393.0000	304.0000	1700.0000
	CHLORIDE	mg/l	1210.0000	1633.0000	1990.0000	773.0000	473.0000	NS	NS
	CYANIDE	mg/l	159.0000	120.0000	84.0000	24.6000	31.2000	189.0000	19.0000
	FLUORIDE	mg/l	0.9500	1.5000	2.5000	3.8000	5.6000	4.0500	3.2000
	ALUMINUM, DISSOLVED	mg/l	<0.5000	<0.5000	NS	NS	NS	NS	NS
	ARSENIC, DISSOLVED	mg/l	0.0120	0.0260	NS	NS	NS	NS	NS
	BARIUM, DISSOLVED	mg/l	<0.5000	<0.5000	NS	NS	NS	NS	NS
	CHROMIUM, DISSOLVED	mg/l	0.0510	0.0160	0.0120	0.0020	0.0010	0.0090	0.0080
	IRON, DISSOLVED	mg/l	36.8000	2.6900	0.8000	0.3500	0.2000	3.4000	0.5000
	LEAD, DISSOLVED	mg/l	<0.0010	<0.0010	NS	NS	NS	NS	NS
	MANGANESE, DISSOLVED	mg/l	3.0000	0.7100	0.2900	5.5300	11.4000	2.6000	0.8500
	MERCURY, DISSOLVED	mg/l	<0.0002	<0.0050	NS	NS	NS	NS	NS
	SELENIUM, DISSOLVED	mg/l	0.0050	0.0030	NS	NS	NS	NS	NS
	SILVER, DISSOLVED	mg/l	<0.0010	<0.0010	NS	NS	NS	NS	NS
	SODIUM, DISSOLVED	mg/l	411.0000	430.0000	420.0000	232.0000	274.0000	320.0000	430.0000
	NITRATE, NITROGEN	mg/l	<0.1500	<0.0050	0.1500	<0.1500	<0.1500	<0.5200	NS
	TOTAL ORGANIC HALOGENS	ug/l	78.0000	69.0000	<5.0000	5180.0000	NS	14.0000	99.0000
	2,4 - D	ug/l	1.1900	<2.5000	NS	NS	NS	NS	NS
	2,4,5 - TP	ug/l	<0.2500	<10.0000	NS	NS	NS	NS	NS
	LINDANE	ug/l	<0.5000	<0.0300	NS	NS	NS	NS	NS
	ENDRIN	ug/l	<0.5000	<0.2200	NS	NS	NS	NS	NS
	METHOXYCHLOR	ug/l	<2.5000	<0.4900	NS	NS	NS	NS	NS
	TOXAPHENE	ug/l	<25.0000	<0.9800	NS	NS	NS	NS	NS
	TOTAL PHENOLS	mg/l	<0.0050	36.9000	3.8500	0.7200	0.3700	2.3100	1.8400
	PH	standard	7.1500	7.4500	8.3100	7.7500	6.7500	7.7800	7.4100
	TOTAL DISSOLVED SOLIDS	umhos/cm	4920.0000	3870.0000	4190.0000	5180.0000	5290.0000	1710.0000	4850.0000
	SPECIFIC CONDUCTANCE	mg/l	8010.0000	9929.0000	9750.0000	7750.0000	6650.0000	10400.0000	11100.0000
	SULFATE	mg/l	2950.0000	2512.0000	2700.0000	3650.0000	3500.0000	2960.0000	3300.0000

WELL NUMBER

W-2DUP

CATEGORY	PARAMETER	UNITS	DATE
			04/24/86
			CONCENTRATION
WQP			
	ALKALINITY	mg/l	389.0000
	AMMONIA	mg/l	328.0000
	COLIFORM, TOTAL	col/100m	NS
	BIOCHEMICAL OXYGEN DEMAND	mg/l	280.0000
	TOTAL ORGANIC CARBON	mg/l	104.0000
	CHEMICAL OXYGEN DEMAND	mg/l	413.0000
	CHLORIDE	mg/l	505.0000
	CYANIDE	mg/l	29.7000
	FLUORIDE	mg/l	5.8000
	ALUMINUM, DISSOLVED	mg/l	NS
	ARSENIC, DISSOLVED	mg/l	NS
	BARIUM, DISSOLVED	mg/l	NS
	CHROMIUM, DISSOLVED	mg/l	0.0020
	IRON, DISSOLVED	mg/l	<0.1000
	LEAD, DISSOLVED	mg/l	NS
	MANGANESE, DISSOLVED	mg/l	12.0000
	MERCURY, DISSOLVED	mg/l	NS
	SELENIUM, DISSOLVED	mg/l	NS
	SILVER, DISSOLVED	mg/l	NS
	SODIUM, DISSOLVED	mg/l	261.0000
	NITRATE, NITROGEN	mg/l	<0.1500
	TOTAL ORGANIC HALOGENS	ug/l	57.0000
	2,4 - D	ug/l	NS
	2,4,5 - TP	ug/l	NS
	LINDANE	ug/l	NS
	ENDRIN	ug/l	NS
	METHOXYCHLOR	ug/l	NS
	TOXAPHENE	ug/l	NS
	TOTAL PHENOLS	mg/l	0.3100
	PH	standard	7.0600
	TOTAL DISSOLVED SOLIDS	umhos/cm	4880.0000
	SPECIFIC CONDUCTANCE	mg/l	NS
	SULFATE	mg/l	6700.0000

WELL NUMBER

W-3

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	10/15/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
WQP	ALKALINITY	mg/l	65.5000	44.2000	47.1000	39.3000	39.8000	58.0000	44.6000
	AMMONIA	mg/l	14.3000	13.1000	6.3000	1.2700	2.4800	4.5500	5.9100
	COLIFORM, TOTAL	col/100m	400.0000	1.0000	5.0000	<2.0000	NS	<2.0000	2.0000
	BIOCHEMICAL OXYGEN DEMAND	mg/l	2.4000	NS	0.9000	4.6500	6.8000	17.0000	4.7000
	TOTAL ORGANIC CARBON	mg/l	6.7000	5.5100	3.1000	1.3900	1.7500	1.6000	2.5000
	CHEMICAL OXYGEN DEMAND	mg/l	12.7000	57.3000	14.5000	36.0000	<10.0000	<10.0000	<10.0000
	CHLORIDE	mg/l	12.3000	14.8000	17.0000	11.6000	9.5000	NS	NS
	CYANIDE	mg/l	0.0040	0.0010	0.0250	0.0060	0.0570	<0.0660	0.0120
	FLUORIDE	mg/l	0.6200	0.4700	0.2800	0.4300	0.4400	0.5300	0.4900
	ALUMINUM, DISSOLVED	mg/l	<0.5000	<0.5000	NS	NS	NS	NS	NS
	ARSENIC, DISSOLVED	mg/l	<0.0010	<0.0010	NS	NS	NS	NS	NS
	BARIUM, DISSOLVED	mg/l	<0.5000	<0.5000	NS	NS	NS	NS	NS
	CHROMIUM, DISSOLVED	mg/l	0.0040	0.0020	0.0060	0.0020	<0.0010	<0.0010	0.0050
	IRON, DISSOLVED	mg/l	0.5000	<0.0500	0.1000	<0.1000	<0.1000	<0.1000	38.0000
	LEAD, DISSOLVED	mg/l	<0.0010	<0.0010	NS	NS	NS	NS	NS
	MANGANESE, DISSOLVED	mg/l	1.7000	1.4000	1.0400	0.6700	0.5800	1.3000	3.2000
	MERCURY, DISSOLVED	mg/l	0.0002	<0.0050	NS	NS	NS	NS	NS
	SELENIUM, DISSOLVED	mg/l	0.0050	0.0030	NS	NS	NS	NS	NS
	SILVER, DISSOLVED	mg/l	<0.0010	<0.0010	NS	NS	NS	NS	NS
	SODIUM, DISSOLVED	mg/l	54.2000	53.0000	41.0000	25.0000	23.1000	34.0000	24.0000
	NITRATE, NITROGEN	mg/l	15.3000	10.5000	15.0000	11.9000	7.0500	5.4000	5.8000
	TOTAL ORGANIC HALOGENS	ug/l	48.0000	7.0000	<5.0000	<5.0000	1040.0000	<5.0000	13.0000
	2,4 - D	ug/l	<0.2500	<1.0000	NS	NS	NS	NS	NS
	2,4,5 - TP	ug/l	<0.2500	<1.0000	NS	NS	NS	NS	NS
	LINDANE	ug/l	<0.0500	<0.0030	NS	NS	NS	NS	NS
	ENDRIN	ug/l	<0.0500	<0.0220	NS	NS	NS	NS	NS
	METHOXYCHLOR	ug/l	<0.2500	<0.0490	NS	NS	NS	NS	NS
	TOXAPHENE	ug/l	<2.5000	<0.0980	NS	NS	NS	NS	NS
	TOTAL PHENOLS	mg/l	<0.0050	<0.0050	<0.0050	<0.0050	0.0080	<0.0050	<0.0050
	PH	standard	6.5000	6.1900	6.1500	6.4000	6.9500	6.3700	6.4700
	TOTAL DISSOLVED SOLIDS	umhos/cm	880.0000	921.0000	762.0000	511.0000	572.0000	252.0000	848.0000
	SPECIFIC CONDUCTANCE	mg/l	1070.0000	1097.0000	903.0000	702.0000	534.0000	754.0000	583.0000
	SULFATE	mg/l	513.0000	420.0000	360.0000	249.0000	51.9000	298.0000	200.0000

WELL NUMBER

W-3DUP

CATEGORY	PARAMETER	UNITS	DATE
			10/15/85
			CONCENTRATION
WQP	ALKALINITY	mg/l	47.4000
	AMMONIA	mg/l	6.4000
	COLIFORM, TOTAL	col/100m	2.0000
	BIOCHEMICAL OXYGEN DEMAND	mg/l	0.1000
	TOTAL ORGANIC CARBON	mg/l	3.2400
	CHEMICAL OXYGEN DEMAND	mg/l	43.0000
	CHLORIDE	mg/l	15.3000
	CYANIDE	mg/l	0.0390
	FLUORIDE	mg/l	0.3000
	ALUMINUM, DISSOLVED	mg/l	NS
	ARSENIC, DISSOLVED	mg/l	NS
	BARIUM, DISSOLVED	mg/l	NS
	CHROMIUM, DISSOLVED	mg/l	0.0070
	IRON, DISSOLVED	mg/l	<0.1000
	LEAD, DISSOLVED	mg/l	NS
	MANGANESE, DISSOLVED	mg/l	1.0400
	MERCURY, DISSOLVED	mg/l	NS
	SELENIUM, DISSOLVED	mg/l	NS
	SILVER, DISSOLVED	mg/l	NS
	SODIUM, DISSOLVED	mg/l	42.0000
	NITRATE, NITROGEN	mg/l	16.0000
	TOTAL ORGANIC HALOGENS	ug/l	<5.0000
	2,4 - D	ug/l	NS
	2,4,5 - TP	ug/l	NS
	LINDANE	ug/l	NS
	ENDRIN	ug/l	NS
	METHOXYCHLOR	ug/l	NS
	TOXAPHENE	ug/l	NS
	TOTAL PHENOLS	mg/l	<0.0050
	PH	standard	6.2000
	TOTAL DISSOLVED SOLIDS	umhos/cm	731.0000
	SPECIFIC CONDUCTANCE	mg/l	906.0000
	SULFATE	mg/l	360.0000

WELL NUMBER

W-4

CATEGORY	PARAMETER	UNITS	DATE 04/10/85	DATE 06/26/85	DATE 10/15/85	DATE 01/23/86	DATE 04/24/86	DATE 07/29/86	DATE 10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
WQP	ALKALINITY	mg/l	89.8000	314.0000	17.9000	31.1000	19.8000	115.0000	205.0000
	AMMONIA	mg/l	20.7000	60.2000	0.2600	0.7400	0.0520	6.8000	24.1000
	COLIFORM, TOTAL	col/100m	2000.0000	8.0000	>2400.0000	2.0000	NS	<2.0000	13.0000
	BIOCHEMICAL OXYGEN DEMAND	mg/l	37.0000	NS	1.0000	3.9500	2.4000	12.0000	69.0000
	TOTAL ORGANIC CARBON	mg/l	130.0000	3.1600	2.7800	2.5500	<0.5000	6.3000	15.7000
	CHEMICAL OXYGEN DEMAND	mg/l	44.0000	269.0000	<7.0000	43.8000	11.9000	50.0000	155.0000
	CHLORIDE	mg/l	22.7000	152.0000	7.3000	5.5000	10.0000	NS	NS
	CYANIDE	mg/l	3.6000	16.8000	0.0020	0.0030	0.0030	3.6800	16.8000
	FLUORIDE	mg/l	0.1800	0.0800	0.0600	0.1700	0.1200	0.3800	0.5400
	ALUMINUM, DISSOLVED	mg/l	3.9000	<0.5000	NS	NS	NS	NS	NS
	ARSENIC, DISSOLVED	mg/l	0.0080	0.0080	NS	NS	NS	NS	NS
	BARIUM, DISSOLVED	mg/l	<0.5000	0.5000	NS	NS	NS	NS	NS
	CHROMIUM, DISSOLVED	mg/l	0.0200	0.0060	<0.0010	<0.0010	<0.0010	<0.0010	0.0040
	IRON, DISSOLVED	mg/l	17.1000	62.0000	0.2000	<0.1000	<0.1000	15.1000	177.0000
	LEAD, DISSOLVED	mg/l	0.0120	0.0020	NS	NS	NS	NS	NS
	MANGANESE, DISSOLVED	mg/l	2.3000	4.7000	0.3100	0.5900	0.2400	2.4000	2.9000
	MERCURY, DISSOLVED	mg/l	0.0005	<0.0050	NS	NS	NS	NS	NS
	SELENIUM, DISSOLVED	mg/l	0.0080	0.0040	NS	NS	NS	NS	NS
	SILVER, DISSOLVED	mg/l	<0.0010	<0.0010	NS	NS	NS	NS	NS
	SODIUM, DISSOLVED	mg/l	30.8000	184.0000	2.7000	1.9000	4.1500	9.9000	28.5000
	NITRATE, NITROGEN	mg/l	<0.1500	<0.0050	7.0000	1.2500	4.5200	0.1100	<0.2600
	TOTAL ORGANIC HALOGENS	ug/l	82.0000	18.0000	<5.0000	6.0000	NS	<5.0000	<5.0000
	2,4 - D	ug/l	<0.2500	<1.0000	NS	NS	NS	NS	NS
	2,4,5 - TP	ug/l	<0.2500	<1.0000	NS	NS	NS	NS	NS
	LINDANE	ug/l	<0.5000	<0.0030	NS	NS	NS	NS	NS
	ENDRIN	ug/l	<0.5000	<0.0220	NS	NS	NS	NS	NS
	METHOXYCHLOR	ug/l	<2.5000	<0.0490	NS	NS	NS	NS	NS
	TOXAPHENE	ug/l	<25.0000	<0.0980	NS	NS	NS	NS	NS
	TOTAL PHENOLS	mg/l	<0.0050	0.0140	<0.0050	<0.0050	0.0060	<0.0050	<0.0050
	PH	standard	6.9900	6.5700	5.8900	6.5000	6.3400	6.4900	6.6700
	TOTAL DISSOLVED SOLIDS	umhos/cm	108.0000	1320.0000	218.0000	163.0000	230.0000	210.0000	1405.0000
	SPECIFIC CONDUCTANCE	mg/l	461.0000	1777.0000	186.0000	158.0000	NS	369.0000	588.0000
	SULFATE	mg/l	111.0000	511.0000	32.0000	30.0000	51.9000	33.1000	80.0000

WELL NUMBER

FBLANK

CATEGORY	PARAMETER	UNITS	DATE	DATE	DATE	DATE	DATE	DATE
			04/10/85	06/26/85	01/23/86	04/24/86	07/29/86	10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
WQP	ALKALINITY	mg/l	5.1000	<1.0000	<10.0000	<10.0000	<5.0000	<10.0000
	AMMONIA	mg/l	<0.0200	<0.0200	<0.0200	0.0540	<0.0300	0.0520
	COLIFORM, TOTAL	col/100m	<1.0000	NS	<2.0000	NS	NS	NS
	BIOCHEMICAL OXYGEN DEMAND	mg/l	0.5000	NS	0.5000	1.8000	0.3000	2.5000
	TOTAL ORGANIC CARBON	mg/l	0.6000	1.2900	<0.5000	<0.5000	0.4000	<0.5000
	CHEMICAL OXYGEN DEMAND	mg/l	8.4000	<7.0000	19.7000	<10.0000	<10.0000	<10.0000
	CHLORIDE	mg/l	<3.0000	<3.0000	<3.0000	20.9000	NS	NS
	CYANIDE	mg/l	<0.0010	<0.0010	<0.0010	<0.0050	<0.0050	<0.0050
	FLUORIDE	mg/l	<0.0500	<0.0500	<0.0500	<0.0500	0.0100	0.0200
	ALUMINUM, DISSOLVED	mg/l	<0.5000	<0.5000	NS	NS	NS	NS
	ARSENIC, DISSOLVED	mg/l	<0.0010	<0.0010	NS	NS	NS	NS
	BARIUM, DISSOLVED	mg/l	<0.5000	<0.5000	NS	NS	NS	NS
	CHROMIUM, DISSOLVED	mg/l	0.0040	0.0030	<0.0010	<0.0010	<0.0010	<0.0010
	IRON, DISSOLVED	mg/l	<0.0500	<0.0500	<0.1000	<0.1000	<0.1000	<0.1000
	LEAD, DISSOLVED	mg/l	0.0090	<0.0010	NS	NS	NS	NS
	MANGANESE, DISSOLVED	mg/l	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	MERCURY, DISSOLVED	mg/l	<0.0002	<0.0050	NS	NS	NS	NS
	SELENIUM, DISSOLVED	mg/l	0.0030	0.0030	NS	NS	NS	NS
	SILVER, DISSOLVED	mg/l	<0.0010	<0.0010	NS	NS	NS	NS
	SODIUM, DISSOLVED	mg/l	<0.2000	<0.2000	0.5400	10.1000	<0.5000	<0.5000
	NITRATE, NITROGEN	mg/l	<0.1500	<0.0050	<0.1500	0.8700	<0.5200	<0.2600
	TOTAL ORGANIC HALOGENS	ug/l	26.0000	29.0000	<5.0000	69.0000	<5.0000	<5.0000
	2,4 - D	ug/l	<0.2500	<1.0000	NS	NS	NS	NS
	2,4,5 - TP	ug/l	<0.2500	<1.0000	NS	NS	NS	NS
	LINDANE	ug/l	<0.0500	<0.0020	NS	NS	NS	NS
	ENDRIN	ug/l	<0.0500	<0.0270	NS	NS	NS	NS
	METHOXYCHLOR	ug/l	<0.2500	<0.0580	NS	NS	NS	NS
	TOXAPHENE	ug/l	<2.5000	<0.0200	NS	NS	NS	NS
	TOTAL PHENOLS	mg/l	<0.0050	0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	PH	standard	6.6700	6.0500	6.2100	6.2000	6.8400	6.3300
	TOTAL DISSOLVED SOLIDS	umhos/cm	<1.0000	18.0000	37.0000	92.0000	<1.0000	392.0000
	SPECIFIC CONDUCTANCE	mg/l	32.5000	1.5000	4.6000	84.0000	1.2800	1.1200
	SULFATE	mg/l	4.2000	<15.0000	<10.0000	10.6000	11.8000	<10.0000

WELL NUMBER

TBLANK

CATEGORY	PARAMETER	UNITS	DATE 04/10/85	DATE 06/26/85	DATE 10/15/85	DATE 01/23/86	DATE 04/24/86	DATE 07/29/86	DATE 10/10/86
			CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
WQP	ALKALINITY	mg/l	NS	NS	NS	NS	<10.0000	NS	NS
	AMMONIA	mg/l	NS	NS	NS	NS	0.0570	NS	NS
	COLIFORM, TOTAL	col/100m	NS	NS	NS	NS	NS	NS	NS
	BIOCHEMICAL OXYGEN DEMAND	mg/l	NS	NS	NS	NS	1.8000	NS	NS
	TOTAL ORGANIC CARBON	mg/l	NS	NS	NS	NS	<0.5000	NS	NS
	CHEMICAL OXYGEN DEMAND	mg/l	NS	NS	NS	NS	<10.0000	NS	NS
	CHLORIDE	mg/l	NS	NS	NS	NS	<3.0000	NS	NS
	CYANIDE	mg/l	NS	NS	NS	NS	<0.0050	NS	NS
	FLUORIDE	mg/l	NS	NS	NS	NS	<0.0500	NS	NS
	ALUMINUM, DISSOLVED	mg/l	NS	NS	NS	NS	NS	NS	NS
	ARSENIC, DISSOLVED	mg/l	NS	NS	NS	NS	NS	NS	NS
	BARIUM, DISSOLVED	mg/l	NS	NS	NS	NS	NS	NS	NS
	CHROMIUM, DISSOLVED	mg/l	NS	NS	NS	NS	<0.0010	NS	NS
	IRON, DISSOLVED	mg/l	NS	NS	NS	NS	<0.1000	NS	NS
	LEAD, DISSOLVED	mg/l	NS	NS	NS	NS	NS	NS	NS
	MANGANESE, DISSOLVED	mg/l	NS	NS	NS	NS	<0.0500	NS	NS
	MERCURY, DISSOLVED	mg/l	NS	NS	NS	NS	NS	NS	NS
	SELENIUM, DISSOLVED	mg/l	NS	NS	NS	NS	NS	NS	NS
	SILVER, DISSOLVED	mg/l	NS	NS	NS	NS	NS	NS	NS
	SODIUM, DISSOLVED	mg/l	NS	NS	NS	NS	1.4500	NS	NS
	NITRATE, NITROGEN	mg/l	NS	NS	NS	NS	<0.1500	NS	NS
	TOTAL ORGANIC HALOGENS	ug/l	NS	NS	NS	NS	29.0000	NS	NS
	2,4 - D	ug/l	NS	NS	NS	NS	NS	NS	NS
	2,4,5 - TP	ug/l	NS	NS	NS	NS	NS	NS	NS
	LINDANE	ug/l	NS	NS	NS	NS	NS	NS	NS
	ENDRIN	ug/l	NS	NS	NS	NS	NS	NS	NS
	METHOXYCHLOR	ug/l	NS	NS	NS	NS	NS	NS	NS
	TOXAPHENE	ug/l	NS	NS	NS	NS	NS	NS	NS
	TOTAL PHENOLS	mg/l	NS	NS	NS	NS	<0.0050	NS	NS
	PH	standard	NS	NS	NS	NS	6.3600	NS	NS
	TOTAL DISSOLVED SOLIDS	umhos/cm	NS	NS	NS	NS	26.0000	NS	NS
	SPECIFIC CONDUCTANCE	mg/l	NS	NS	NS	NS	3.9000	NS	NS
	SULFATE	mg/l	NS	NS	NS	NS	11.9000	NS	NS

1x500ml Metals (5ml HNO₃)
1x500ml Phenolics (5ml CoSO₄)
1x500ml Cyanide (NaOH)

WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN
MG/L UNLESS OTHERWISE SPECIFIED

ESTABLISHMENT Philadelphia Coke Co.		CASE Annual RCRA split		FACILITY Inactive BRIDGES		PLANT 2139		COLL NUMBER 2139	
COUNTY Philadelphia		MUNICIPALITY Phila.		PROGRAM SWM		COLL NAME Sarah L. Ginzler		TYPE TR ICE	
CARD (3) 1		ID CODE (ALL CARDS) 4-16 Mun T Est Case Fac		LATITUDE 4-10 0		LONGITUDE 11-18 010837		DATE 19-24 11/27	
USGS-Q 30-34		BUREAU 35-37 AMIS 31010		SAMPLE NUMBER 38-43 213902		STREAM NAME 44-57 OJELL NO. 15		RELATIVE POINT 58	
TRIBUTARY TO: FULL DESCRIPTION WHERE SAMPLE TAKEN * [4 bottles] 210 analysis + cyanide								ADDITIONAL LAB ANALYSES	

FIELD ANALYSES				LAB ANALYSES			
Type Sample	59-60	<input type="checkbox"/>	Chemist	Date Analyzed			/ /
Flow	61-62	<input type="checkbox"/>	Color	(00080)			
Reason Sampled	63-64	<input type="checkbox"/>	Turb	(00070)			
Composite Sample	65	<input type="checkbox"/>	pH	(00403)			
Proportional Uniform	66	<input type="checkbox"/>	Spec. Cond	(00095)			
Temporal Spatial	67-68	<input type="checkbox"/>	Alk	(00410)			
Aliquots	69	<input type="checkbox"/>	pH4	(00436)			
Estimated Measured	80	<input type="checkbox"/>	pH8	(70508) (00435)			
Condition	80	<input type="checkbox"/>	T.O.C.	(00680)			
Above - 1 Below - 3	Normal - 2 No Flow - 4	CARD (2)	C.O.D.	(00340)			
Stream Flow-CFS	(00061)		5-Day BOD	(00310)			
Stream Flow-MGD	(50051)		T	(00665)			
Flow-MGD	(50050)		TD	(00666)			
Gage Reading-Ft.	(00065)		Al-Tot ug/l	(01105)			
Temp (C)	(00010)		Cd-Tot ug/l	(01027)			
pH	(00400)		Cr-Tot ug/l	(01034)			
D.O.	(00300)		Cu-Tot ug/l	(01042)			
Cl (50060)			Fe-Tot ug/l	(01045)			
Br (71871)			Mn-Tot ug/l	(01055)			
I (71866)			Ni-Tot ug/l	(01067)			
Spec Cond	(00094)		Pb-Tot ug/l	(01051)			
Appearance	(46001)		Zn-Tot ug/l	(01092)			
Odor	(01330)						

CUSTODY LOG

How Shipped Refrigerator Date 1/8/87
Legal Seal No. 293565, -66, -67, -68
Received by _____
Condition of Seal _____

LABORATORY REPORT
FOR SAMPLE NUMBER 8741823

RECEIVED 1/09/87
REPORTED 3/02/87

COLLECTOR S.GINZLER SMH1
COLLECTOR NO. 2139020
ESTABLISHMENT PHILADELPHIA COKE CO.
CASE NAME ANNUAL RCRA SPLIT
FACILITY INACTIVE BRIDGESBURG PLANT
ID CODE NONE
SAMPLING DATE 1/08/87
SAMPLING TIME 11:27
WGN 000
TYPE 01
SOURCE 00
STANDARD ANAL 210
LATITUDE 00:00:00.0 LONGITUDE 00:00:00.0

LABORATORY ANALYSIS:

TEST	DESCRIPTION	RESULT	CONC	VERIFY BY	VERIFY DATE	COMMENT
00095	SPEC COND	6.0000	G	NWK	1/09/87	
00403	PH LAB	5.7000	G	HRO	1/12/87	
00410	T ALK CAC03	4.0000	MG/L	G	HRO	1/12/87
00610	T NH3-N	< 0.0200	MG/L	G	BLF	1/12/87
00620	T NO3-N	< 0.0400	MG/L	G	BLF	1/12/87
00625	T KJELD-N	< 0.2000	MG/L	G	HMJ	1/20/87
00680	T DRG C MG/L	< 1.0000	MG/L	G	WVM	1/26/87
00719	CN, FREE HB6	< 1.0000	UG/L	G	EVC	1/12/87
00720	CN	< 0.0010	MG/L	G	EVC	1/12/87
00929	NA, TOT MG/L	1.6200	MG/L	G	MJA	2/09/87
00940	CHLORIDE	< 1.0000	MG/L	G	BLF	1/12/87
00945	SO4-TOT	< 10.0000	MG/L	G	KLS	1/12/87
00951	F, TOTAL	< 0.1000	MG/L	G	EVC	1/14/87
01002	AS, TOTAL	< 4.0000	UG/L	G	DES	1/16/87
01007	BA-TOT UG/L	< 10.0000	UG/L	G	MJA	2/09/87
01027	CD-TOT UG/L	< 10.0000	UG/L	G	MJA	2/09/87
01032	CR HEX, UG/L	< 10.0000	UG/L	G	WVM	1/09/87
01034	CR-TOT UG/L	< 50.0000	UG/L	G	MJA	2/09/87
01042	CU-TOT UG/L	< 10.0000	UG/L	G	MJA	2/09/87
01045	FE-TOT	15.0000	UG/L	G	MJA	2/09/87
01051	PB-TOTAL	< 50.0000	UG/L	G	MJA	2/09/87
01055	MN-TOTAL	< 10.0000	UG/L	G	MJA	2/09/87
01067	NI-TOTAL	25.0000	UG/L	G	MJA	2/09/87
01077	AG-TOTAL	< 10.0000	UG/L	G	WPK	2/27/87
01092	ZN-TOT UG/L	< 10.0000	UG/L	G	MJA	2/09/87
01147	SE, T AS UG/L	< 6.0000	UG/L	G	DES	1/16/87
32730	PHENOLS	0.0000	UG/L	G	EVC	1/09/87
70353	DRG HLDS PPB	0.0000	UG/L	V	LCW	2/07/87
71900	MERCURY	< 1.0000	UG/L	G	DHM	1/26/87

NO SEP. SAMPLE RECEIVED

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 29

WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN
MG/L UNLESS OTHERWISE SPECIFIED

Inactive

ESTABLISHMENT Phila. Coke Co.		CASE Annual RCRA Split		FACILITY Bridgesburg Plant		COLL NUMBER 2139	
COUNTY Phila.		MUNICIPALITY Phila.		PROGRAM SWM Sarah L. Ginzler		COLL NAME 215-270-1945	
TYPE TR ICE		STB ANALYSIS NONE		KIND 29 1			

CARD (3) 1	Cnty	ID CODE (ALL CARDS) 4-16 Mun T Est Case Fac	LATITUDE 4-10 0	LONGITUDE 11-18 0108870	DATE 19-24 M D Y 01 08 87	TIME 25-28 Hr Min 11 00	KIND 29 1
USGS-Q30-34	BUREAU 35-37 AMIS 3100211390	SAMPLE NUMBER 38-43 12WELL NO. 33	STREAM NAME 44-57		RELATIVE POINT 58		

TRIBUTARY TO: **(400 bottles)**

FULL DESCRIPTION WHERE SAMPLE TAKEN
210 analysis + cyanide

ADDITIONAL LAB ANALYSES

FIELD ANALYSES				LAB ANALYSES			
Type Sample	59-60	01	Chemist	Date Analyzed			/ /
# of Sample	61-62	03	Color (00080)				Total Solids (00500)
Reason Sampled	63-64	01	Turb (00070)				Susp. Solids (00530)
Composite Sample	Proportional Uniform 65		pH (00403)				Set Solids (00545)
	Temporal Spatial 66		Spec. Cond (00095)				Total Diss Solids (00515)
	Aliquots 67-68		Alk (00410)				NO ₂ N (00615)
Flow	Estimated Measured 69		pH ₄ (00436)				NO ₃ N (00620)
Condition	Above - 1 Normal - 2 Flood - 5 Below - 3 No Flow - 4	80	pH ₈ (00435)				NH ₃ N (00610)
	CARD (2)		T.O.C. (00680)				Kjel-N (00625)
Stream Flow-CFS (00061)			G.O.D. (00340)				Hardness (00900)
Stream Flow-MGD (50051)			5-Day BOD (00310)				Ca (00916)
low-MGD (50050)			P T (00665)				Mg (00927)
Gage Reading-Ft. (00065)			TD (00666)				SO ₄ (00945)
Temp (C) (00010)			Al-Tot ug/l (01105)				Cl (00940)
pH (00400)			Cd-Tot ug/l (01027)				F (00951)
D.O. (00300)			Cr-Tot ug/l (01034)				MBAS (38260)
Cl (50060)			Cu-Tot ug/l (01042)				Phenols ug/l (46002)
Br (71871)			Fe-Tot ug/l (01045)				Ds (32730)
I (71866)			Mn-Tot ug/l (01055)				Cyanide (00720)
Spec Cond (00094)			Ni-Tot ug/l (01067)				
Appearance (46001)			Pb-Tot ug/l (01051)				
Odor (01330)			Zn-Tot ug/l (01092)				

CUSTODY LOG

How Shipped **Purclator** Date **1/6/87**

Legal Seal No. **293584-82, -83**

Received by _____

Condition of Seal _____

LABORATORY REPORT
FOR SAMPLE NUMBER 8741825

RECEIVED 1/09/87
REPORTED 3/02/87

COLLECTOR S.GINZLER SYN1
COLLECTOR NO. 2139012
ESTABLISHMENT PHILA COKE CO.
CASE NAME ANNUAL RCRA SPLIT
FACILITY INACTIVE BRIDESBURG PLANT
ID CODE NONE
SAMPLING DATE 1/09/78
SAMPLING TIME 1:00
UGN 000
TYPE 01
SOURCE 00
STANDARD ANAL 210
LATITUDE 00:00:00.0 LONGITUDE 00:00:00.0

LABORATORY ANALYSIS:

TEST	DESCRIPTION	RESULT	CONC	VERIFY BY	VERIFY DATE	COMMENT
00095	SPEC COND	450.0000	G	NWK	1/09/87	
00403	PH LAB	6.1000	G	MRO	1/12/87	
00410	T ALK-CACO3	50.0000	MG/L	G	MRO	1/12/87
00610	T NH3-N	1.9800	MG/L	G	BLF	1/12/87
00620	T NO3-N	6.1400	MG/L	G	BLF	1/12/87
00625	T KJELD-N	2.3200	MG/L	G	HHJ	1/22/87
00680	T ORG C MG/L	< 1.0000	MG/L	G	WVM	1/26/87
00719	CN, FREE HBG	< 1.0000	UG/L	G	EVC	1/12/87
00720	CN	0.0340	MG/L	G	EVC	1/12/87
00929	NA, TOT MG/L	22.4000	MG/L	G	MJA	2/09/87
00940	CHLORIDE	5.0000	MG/L	G	BLF	1/12/87
00945	SO4 TOT	149.0000	MG/L	G	KLS	1/12/87
00951	F, TOTAL	0.3400	MG/L	G	EVC	1/14/87
01002	AS, TOTAL	< 4.0000	UG/L	G	DES	1/16/87
01007	BA TOT UG/L	25.0000	UG/L	G	MJA	2/09/87
01027	CD TOT UG/L	< 10.0000	UG/L	G	MJA	2/09/87
01032	CR HEX, UG/L	< 10.0000	UG/L	G	WVM	1/09/87
01034	CR TOT UG/L	< 50.0000	UG/L	G	MJA	2/09/87
01042	CU TOT UG/L	< 10.0000	UG/L	G	MJA	2/09/87
01045	FE TOT	273.0000	UG/L	G	MJA	2/09/87
01051	PB, TOTAL	< 50.0000	UG/L	G	MJA	2/09/87
01055	MN TOTAL	441.0000	UG/L	G	MJA	2/09/87
01067	NI, TOTAL	< 25.0000	UG/L	G	MJA	2/09/87
01077	AG, TOTAL	< 10.0000	UG/L	G	WPK	2/27/87
01092	ZN, TOT UG/L	164.0000	UG/L	G	MJA	2/09/87
01147	SE, T AS UG/L	20.2500	UG/L	G	BBM	1/28/87
32730	PHENOLS	0.0000	UG/L	G	EVC	1/09/87
70353	ORG HLDS PPB	0.0000	UG/L	V	LCW	2/07/87
71900	MERCURY	< 1.0000	UG/L	G	DHH	1/26/87

NO SEP. SAMPLE RECEIVED

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 29

WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN
MG/L UNLESS OTHERWISE SPECIFIED

ESTABLISHMENT Phila. Coke Company		CASE Annual RCRA Split		FACILITY Inactive Bridgport Plant		COLL NUMBER 2139	
COUNTY Philadelphia		MUNICIPALITY Phila.		COLL NAME SWM Sarah L. Ginzler 1945		TYPE TR ICE	
CARD (3) 1 2		ID CODE (ALL CARDS) 4-16 Cntry Mun T Est Case Fac		LATITUDE 4-10 0		LONGITUDE 11-18 010987	
USGS-Q 30-34		BUREAU 35-37 AMIS 31010		SAMPLE NUMBER 38-43 211391004		STREAM NAME 44-57 WELL NO. 1	
DATE 19-24 M D Y		TIME 25-28 Hr Min		KIND 29 1			
RELATIVE POINT 58							

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN

ADDITIONAL LAB ANALYSES

* 210 analysis + cyanide

Metals not fixed or filtered

FIELD ANALYSES

Type Sample	59-60	01
of Sample	61-62	03
Reason Sampled	63-64	01
Composite Sample	Proportional Uniform	65
	Temporal Spatial	66
Aliquots	67-68	
Flow	Estimated Measured	69
Condition	Above - 1 Below - 3	Normal - 2 No Flow - 4
Stream Flow-CFS	(00061)	
Stream Flow-MGD	(50051)	
F w-MGD	(50050)	
Gage Reading-Ft.	(00065)	
Temp (C)	(00010)	
pH	(00400)	
D.O.	(00300)	
Cl (50060)		
Br (71871)		
I (71866)		
Spec-Cond	(00094)	
Appearance	(46001)	
Odor	(01330)	

LAB ANALYSES

Chemist	Date Analyzed	1/1/98
Color (00080)	Total Solids (00500)	
Turb (00070)	Susp. Solids (00530)	
pH (00403)	Set Solids (00545)	
Spec. Cond (00095)	Total Diss Solids (00515)	
Alk (00410)	NO ₂ -N (00615)	
pH ₄ (00436)	NO ₃ -N (00620)	
pH ₈ (70508) (00435)	NH ₃ -N (00610)	
T.O.C. (00680)	Kjel-N (00625)	
C.O.D. (00340)	Hardness (00900)	
5-Day BOD (00310)	Ca (00916)	
T (00665) TD (00666)	Mg (00927)	
Al-Tot ug/l (01105)	SO ₄ (00945)	
Cd-Tot ug/l (01027)	Cl (00940)	
Cr-Tot ug/l (01034)	F (00951)	
Cu-Tot ug/l (01042)	MBAS (38260)	
Fe-Tot ug/l (01045)	Phenols ug/l (46002) Ds (32730)	
Mn-Tot ug/l (01055)	Cyanide (00720)	
Ni-Tot ug/l (01067)		
Pb-Tot ug/l (01051)		
Zn-Tot ug/l (01092)		

CUSTODY LOG

How Shipped Purelator Date 1/5/98
Legal Seal No. 2293596-945-97-98
Received by _____
Condition of Seal _____

LABORATORY REPORT
FOR SAMPLE NUMBER 8741824

RECEIVED 1/09/87
REPORTED 3/02/87

COLLECTOR S.GINZLER SWM1 SAMPLING DATE 1/08/87
COLLECTOR NO. 2139004 SAMPLING TIME 12:30
ESTABLISHMENT PHILA COKE CO. WDN 000
CASE NAME ANNUAL RCRA SPLIT TYPE 01
FACILITY INACTIVE BRIDGESBURG PLANT SOURCE 00
ID CODE NONE STANDARD ANAL 210
LATITUDE 00:00:00.0 LONGITUDE 00:00:00.0

LABORATORY ANALYSIS:

TEST	DESCRIPTION	RESULT	CONC	VERIFY BY	VERIFY DATE	COMMENT
00095	SPEC COND	1485.0000	G	NWK	1/09/87	
00403	PH LAB	5.8000	G	MRO	1/12/87	
00410	T ALK CACD3	18.0000	MG/L	G	MRO	1/12/87
00610	T NH3-N	72.7000	MG/L	G	BLF	1/12/87
00620	T NO3-N	3.2500	MG/L	G	BLF	1/12/87
00625	T KJELD-N	75.0000	MG/L	G	HMJ	1/22/87
00680	T ORG C MG/L	7.1000	MG/L	G	WVM	1/26/87
00719	CN, FREE HBG	9.0000	UG/L	G	EVC	1/12/87
00720	CN	0.1230	MG/L	G	EVC	1/12/87
00929	NA, TOT MG/L	9.4400	MG/L	G	MJA	2/09/87
00940	CHLORIDE	7.0000	MG/L	G	BLF	1/12/87
00945	SO4 TOT	558.0000	MG/L	G	KLS	1/12/87
00951	F, TOTAL	0.6900	MG/L	G	EVC	1/14/87
01002	AS, TOTAL	9.0000	UG/L	G	DES	1/16/87
01007	BA TOT UG/L	26.0000	UG/L	G	MJA	2/09/87
01027	CD TOT UG/L	20.0000	UG/L	G	MJA	2/09/87
01032	CR HEX, UG/L	< 10.0000	UG/L	G	WVM	1/09/87
01034	CR TOT UG/L	< 50.0000	UG/L	G	MJA	2/09/87
01042	CU TOT UG/L	769.0000	UG/L	G	MJA	2/09/87
01045	FE TOT	4350.0000	UG/L	G	MJA	2/09/87
01051	PB, TOTAL	119.0000	UG/L	G	MJA	2/09/87
01055	MN TOTAL	4610.0000	UG/L	G	MJA	2/09/87
01067	NI, TOTAL	162.0000	UG/L	G	MJA	2/09/87
01077	AG, TOTAL	< 10.0000	UG/L	G	WPK	2/27/87
01092	ZN, TOT UG/L	2050.0000	UG/L	G	MJA	2/09/87
01147	SE, T AS UG/L	< 6.0000	UG/L	G	DES	1/16/87
32730	PHENOLS	0.0000	UG/L	G	EVC	1/09/87
70353	ORG HLDS PPB	0.0000	UG/L	V	LCW	2/07/87
71900	MERCURY	< 1.0000	UG/L	G	DHH	1/26/87

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 29

SPK.RECOV.WITHIN 80-120%

SPK.RECOV.WITHIN 80-120%

NO SEP. SAMPLE RECEIVED



5120 Butler Pike
Plymouth Meeting
Pennsylvania 19462
215-825-3000
Telex 846-343

Woodward Clyde Consultants

August 27, 1986
84C2145

DER-RECEIVED
NORRISTOWN

AUG 29 1986 Mr. Michael Bobeck
Pennsylvania Department of Environmental Resources
1875 New Hope Street
Norristown, Pennsylvania 19401

RECEIVED

SEP 19 1986

Pennsylvania RCRA Enforcement
Section - EPA - Region III

PHILADELPHIA COKE COMPANY
PHILADELPHIA, PENNSYLVANIA

Dear Mr. Bobeck:

This letter represents an addendum to the Groundwater Sampling and Analysis Plan for the above-referenced facility. The original plan is dated March 4, 1985, and was approved by DER on September 12, 1985. This addendum is based on our meeting on August 4, 1986 at your office.

This addendum is to include three new elements to the groundwater program, as described below.

INDICATOR PARAMETERS

For all subsequent sampling rounds, the indicator parameters will be analyzed and reported in quadruplicate for the background well. The indicator parameters are:

pH
specific conductance
total dissolved solids
total organic halogens
total organic carbon

REFINEMENT OF GROUNDWATER FLOW CONDITIONS

Data available from the previous six quarters of monitoring water levels indicate that water levels are highest in W-2 and lowest in W-4. Although by cursory appearance this would imply that W-2 is upgradient and W-4 is downgradient, WCC believes there are other important considerations:

- o W-2, by evidence of the groundwater chemistry, is a downgradient well, with respect to the waste management unit (tar decanter area).
- o Regionally, the groundwater flow direction is southeasterly, towards the Delaware River; this puts W-4 on the regional background side of the plant.
- o The water levels in the vicinity of W-4 are probably artificially depressed by the effects of the industrial and/or sanitary sewers in the area.

Consulting Engineers, Geologists
and Environmental Scientists

Offices in Other Principal Cities



This addendum includes a program to investigate the possibility of a depressed water table near W-4, with the objective of demonstrating that W-4 represents background conditions. This program consists of the installation of one or two observation wells.

The first well (W-5) would be located adjacent to the east side of the sewer lines. Water levels will be monitored in W-5 and compared to W-4. If the water level is lower in W-5 than W-4, this condition would demonstrate the impact of the sewer and would indicate a localized flow reversal near W-4. If this is the case, no other well would be drilled.

If the water level in W-5 is higher than in W-4, a second observation well will be drilled at a location approximately half way between W-2 and W-4. This well will be used together with the other wells to help establish gradients on an areawide basis.

Both new observation wells will be installed to the top of the clay unit, at an approximate depth of 12 feet. The wells will be constructed of 2 inch ID PVC casing and screening, with 10 feet of screen. The annular space will be sealed with bentonite above the gravel pack and with cement above the bentonite. Protective casing will be installed, and the wells will be developed.

A second aspect of the program to establish W-4 as background is to plot the locations and elevations of local sewer lines on a map of the site. If the sewers are affecting groundwater levels, there should be a correlation between the water elevations measured in the wells and the invert elevations of the sewers.

AQUIFER TESTING

Slug tests will be performed in all existing monitoring wells at the plant. These tests will be used to calculate estimates of aquifer permeability, which will be used in an evaluation of groundwater flow rates.

SCHEDULE AND REPORTING

The work described in this addendum can be initiated within 2-3 weeks after approval by DER; however, the drilling described above will be performed in conjunction with the soil sampling program. (The revised Work Plan for that program is also under review by DER.)

All the data and analyses derived from the programs described in this addendum will be reported to DER. As currently planned, an Assessment Report is scheduled to be prepared and submitted following completion of the soil sampling program. The Assessment Report will include:

- o results and interpretation of the soil sampling program
- o summary of results and analysis of all groundwater quality data to date
- o results of slug testing and calculations of flow rates
- o evaluations of upgradient/downgradient conditions in W-2 and W-4
- o evaluations of the impacts, if any, of the sewers on groundwater levels

Please call if you have any questions regarding the information contained in this addendum.

Very truly yours,

WOODWARD-CLYDE CONSULTANTS

A handwritten signature in dark ink, reading "Peter R. Jacobson". The signature is fluid and cursive, with the first name "Peter" and last name "Jacobson" clearly legible.

**Peter R. Jacobson, CPGS
Project Manager**

PRJ/ten/WM 27A

cc: James L. Hogeboom

HAZARDOUS WASTE INSPECTION REPORT
TSD Facilities - Part A

Green

Date of inspection 7/8/86 Time start 10:00 AM Time finish 11:30 AM
Name of inspector Michael M. Bobek
Company, installation name Philadelphia Coke Co.
Location 4501 Richmond St., Phila.
County Phila. Municipality Phila.
Identification number PRD 000 427 906
Name of responsible official James Hogeboom
Title V.P. of Operations
Mailing address P.O. Box 6561, Mesa, Arizona 85206
Area code and phone no. -
Name of person interviewed Ed Gallagher
Title Security Guard
Mailing address (if different from above) 4501 Richmond St., Phila, PA. 19137
Area code and phone no. -

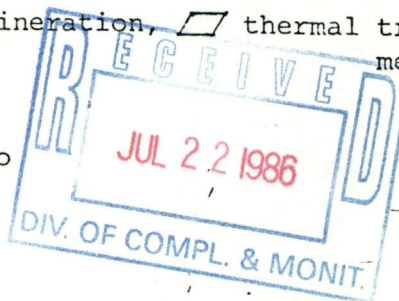
1. Site characterization:

- a. ☐ Treatment - ☐ surface impoundments, ☐ chemical, ☐ physical, ☐ biological
b. ☒ Storage - ☐ containers, ☐ tanks, ☒ surface impoundments, ☐ waste piles
c. ☐ Disposal - ☐ land treatment, ☐ landfill, ☐ incineration, ☐ thermal treatment
d. ☐ Use, ☐ reuse, ☐ recycle, ☐ reclaim

2. Does the facility generate hazardous wastes? ☐ Yes ☒ No

3. Types of hazardous waste produced by Hazardous Waste Number:

None produced at this time K087, D003



4. Are hazardous wastes transported off-site by the facility? ☐ Yes ☒ No

TSD

Date of Inspection 7/8/86 Identification Number PAD 000427906
Company, Installation Name Philadelphia Coke Co.
County Phila. Municipality Phila

The 4th Quarter sampling was completed on January 23, 1986 with data submitted to the Department on April 8, 1986 by Woodward-Clyde. The submittal makes mention of combining the evaluation of groundwater data with an approved Soil Sampling program. The Department provided comments to Woodward-Clyde regarding the proposed soil sampling program on June 12, 1986. It is anticipated by the Department that the groundwater evaluation/soil sampling program would be submitted within the next 30 days.

This inspection report is official notification that a representative of the Department of Environmental Resources, Bureau of Solid Waste Management, inspected the above installation. The findings of this inspection are shown in this report. Any violations which were uncovered during the inspection are indicated. Violations may also be discovered upon examination of the results of laboratory analyses and review of Department records. Notification will be forthcoming, confirming any violations indicated herein and listing any additional violations.

Person Interviewed (signature) Sent to: James Hozboun Date 7/10/86
Inspector (signature) Michael W. Bobek Date 7/8/86

HAZARDOUS WASTE INSPECTION REPORT
Generators - Part A

Date of inspection 7/8/86 Time start 10:00 AM Time finish 11:30 PM
Name of inspector Michael M. Bobek
Company, installation name Philadelphia Coke Co.
Location 4501 Richmond St.
County Phila. Municipality Phila.
Identification number PAD 000427906
Name of responsible official James Hogeboom
Title VP of Operations
Mailing address P.O. Box 6561, Mesa, Arizona, 85206
Area code and phone no. -
Name of person interviewed Ed Gallagher
Title Security Guard
Mailing address (if different from above) 4501 Richmond St, Phila, Pa 19137
Area code and phone no. -

1. Current waste handling method:

- a. ☐ On-site ☐ treatment, ☐ storage, ☐ disposal
b. ☐ On-site ☐ use, ☐ reuse, ☐ recycle, ☐ reclaim
c. ☐ Off-site ☐ treatment, ☐ storage, ☐ disposal
d. ☐ Off-site ☐ use, ☐ reuse, ☐ recycle, ☐ reclaim

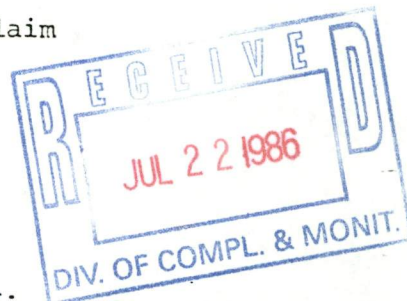
2. Amount of hazardous waste produced:

- a. - kg./mo.
b. - kg./yr.

3. Types of hazardous waste produced by Hazardous Waste Number:

No new generation of wastes former wastes #087, 0003

4. Are hazardous wastes transported off-site by the generator? ☐ Yes ☒ No



Hazardous Waste Inspection Report
Part C - Comments

Date of Inspection 7/8/86 Identification Number PAD 000 427 906
Company, Installation Name Philadelphia Coke Co.
County Phila. Municipality Phila.

Demolition of facility is on hold at this time. Facility owner is soliciting bids for other contractors to complete demolition work. Therefore no recent production of demo. waste has occurred.

Monitoring wells 1 to 4 were inspected by hydrogeologist Sarah Ginzler & found to be in good condition.

Mr. Hogeboom was given an opportunity to review the Department's/EPA comments regarding the soil sampling program submitted by Woodward-Clyde.

Mr. Hogeboom identified the limits of the decaester tar tanks on-site using red painted stakes.

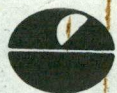
This inspection report is official notification that a representative of the Department of Environmental Resources, Bureau of Solid Waste Management, inspected the above installation. The findings of this inspection are shown in this report. Any violations which were uncovered during the inspection are indicated. Violations may also be discovered upon examination of the results of laboratory analyses and review of Department records. Notification will be forthcoming, confirming any violations indicated herein and listing any additional violations.

Person Interviewed (signature) sent to: James Hogeboom

Date 7/10/86

Inspector (signature) Michael M. Bobek

Date 7/8/86



Woodward-Clyde Consultants

Consulting Engineers,
Geologists and Environmental Scientists

5120 BUTLER PIKE
PLYMOUTH MEETING, PENNSYLVANIA 19462
PHONE (215) 825-3000

LETTER OF TRANSMITTAL

TO U.S. EPA Region III
841 Chestnut Street
Philadelphia, PA 19107

DATE April 17, 1986	JOB NO. 84C2145
ATTENTION Harry Harbold (3HW11)	
RE: Philadelphia Coke	

GENTLEMEN:

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via _____ the following items:

- ☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

ES	DATE	NO.	DESCRIPTION
2			Soil Sampling Program Work Plan
2			Fourth Quarter Sampling Results

THESE ARE TRANSMITTED as checked below:

- ☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☒ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19 _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS _____

COPY TO _____

SIGNED:

Peter R. Jacobson

Peter R. Jacobson

Pennsylvania RCRA Enforcement
Section - EPA - Region III

APR 22 1986

RECEIVED

5120 Butler Pike
Plymouth Meeting
Pennsylvania 19462
215-825-3000
Telex 846-343

Woodward-Clyde Consultants

April 8, 1986
84C2145

Bureau of Waste Management
Pennsylvania Department of Environmental Resources
1875 New Hope St.
Norristown, PA 19401

Attention: Mr. Bruce Beitler

FOURTH-QUARTER GROUNDWATER SAMPLING RESULTS PHILADELPHIA COKE PLANT PHILADELPHIA, PENNSYLVANIA

Gentlemen:

On behalf of Philadelphia Coke Co., this letter presents a report of the fourth-quarter groundwater quality results from the four monitoring wells at the Philadelphia Coke Plant. The data are presented in accompanying tables and are described briefly below; however, detailed evaluation of the groundwater data will be performed for the first year's data along with the soil sampling data from the soil sampling program to be performed at the plant. The work plan for the soil sampling program will be submitted to DER under separate cover.

WATER LEVELS

WCC measured water levels in the four on-site monitoring wells on January 23, 1986, (Table 1). As with the water levels from the first three sampling rounds, the third quarter's water level data indicate that the water table is highest near W-2, with a sub-radial flow pattern toward the other wells. The steepest gradient exists toward W-4, which has the lowest water table elevation. Water levels taken approximately four hours apart exhibited insignificant differences.

WATER QUALITY

Tables 2 and 3 present the analytical results from the groundwater samples collected on January 23, 1986. The general water quality parameters are

Consulting Engineers, Geologists
and Environmental Scientists

Offices in Other Principal Cities



presented on Table 2. These data indicate trends similar to earlier sampling rounds. W-2 generally exhibits the highest concentrations of most parameters. Compared to earlier results, the fourth-quarter results show slight decreases in concentration in all wells, except for some indicator parameters in W-2.

Table 3 summarizes the analytical results for the priority pollutant organics. Two volatile organic compounds, eleven base/neutral compounds, and two acid compounds were detected. Except for toluene in W-1, the only volatile detected is chloroform, in trace quantities. No acid extractables or base/neutrals were detected in W-1, W-3, or W-4 (excluding the trace amounts of bis(2-ethylhexyl)phthalate). Most of the compounds detected in W-2 were detected in the previous samplings, although the concentrations in January are lower than previously determined.

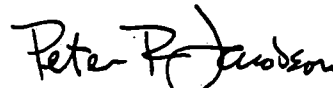
CONCLUSIONS

The data from the fourth-quarter monitoring are similar to the previous monitoring results, in terms of groundwater flow directions and contaminant chemistry. Following the collection of the soil sampling data, a more detailed assessment of the entire year's groundwater data will be performed and presented.

If you have any questions about the data in this report, or need additional data, please do not hesitate to call.

Very truly yours,

WOODWARD-CLYDE CONSULTANTS



Peter R. Jacobson
Project Manager

PRJ/tjr/WM18

cc: James Hogeboom

TABLE 1
GROUNDWATER LEVELS
PHILADELPHIA COKE PLANT
OCTOBER 15, 1985

<u>Well No.</u>	<u>Depth to Water, feet Below Top of Casing</u>	<u>Top of Casing Elevation, feet msl</u>	<u>Water Table Elevation, feet msl</u>	<u>Time Measured,am</u>
W-1	3.95	10.94	6.99	9:26
W-2	5.77	15.31	9.54	9:34
W-3	6.20	14.46	8.26	9:20
W-4	13.21	15.17	1.96	9:13

TABLE 2
SUMMARY OF GENERAL WATER QUALITY ANALYSES
WELLS SAMPLED JANUARY 23, 1986

<u>Parameter</u>	<u>Units</u>	<u>W-1</u>	<u>W-2</u>	<u>W-3</u>	<u>W-4</u>
Alkalinity, Total	mg/l	30.2	630	39.3	31.1
Ammonia as N	mg/l	105	682	1.27	0.74
Total Coliforms	Colonies/100 ml	< 2	< 2	< 2	2
Biochemical Oxygen Demand	mg/l	0.9	515	4.65	3.95
Total Organic Carbon	mg/l	2.73	194	1.39	2.55
Chemical Oxygen Demand	mg/l	50.4	1500	36.0	43.8
Chloride	mg/l	12.0	773	11.6	5.5
Cyanide	mg/l	0.045	24.6	0.006	0.003
Fluoride	mg/l	0.69	3.80	0.43	0.17
Chromium, Dissolved	mg/l	< 0.001	0.002	0.002	< 0.001
Iron, Dissolved	mg/l	< 0.1	0.35	< 0.1	< 0.1
Manganese, Dissolved	mg/l	6.21	5.53	0.67	0.59
Sodium, Dissolved	mg/l	12.2	232	25	1.90
Nitrate as N	mg/l	1.20	< 0.15	11.9	1.25
Total Organic Halogens	mg/l	< 5	5180	< 5	6
Phenolics	mg/l	< 0.005	0.72	< 0.005	< 0.005
pH	Standard	6.71	7.75	6.40	6.50
Total Dissolved Solids	mg/l	1400	5180	511	163
Specific Conductance	μ mhos/cm@25 °C	1670	7750	702	158
Sulfates	mg/l	1020	3650	249	30

TABLE 3
SUMMARY OF PRIORITY POLLUTANT ANALYSES
RESULTS SHOWN FOR DETECTED PARAMETERS ONLY
WELLS SAMPLED JANUARY 23, 1986
ALL VALUES IN μ g/l (ppb)

VOLATILE COMPOUNDS	<u>W-1</u>	<u>W-2</u>	<u>W-3</u>	<u>W-4</u>	<u>Trip Blank</u>
Toluene	7.7	< 2.0	< 0.2	< 0.2	< 0.2
Chloroform	BDL	< 10	< 1.0	BDL	< 1.0
BASE/NEUTRAL COMPOUNDS					
Fluoranthene	< 5	12	< 5	< 5	NA
Pyrene	< 5	9	< 5	< 5	NA
Naphthalene	< 5	420	< 5	< 5	NA
Phenanthrene	< 5	36	< 5	< 5	NA
Acenaphthylene	< 5	22	< 5	< 5	NA
Acenaphthene	< 5	8	< 5	< 5	NA
Fluorene	< 5	45	< 5	< 5	NA
Benzo(b)fluoranthene	< 25	BDL	< 25	< 25	NA
Benzo(a)pyrene	< 25	BDL	< 25	< 25	NA
Bis(2-ethylhexyl)phthalate	BDL	BDL	BDL	BDL	NA
Hexachloroethane	< 5	83	< 5	< 5	NA
ACID COMPOUNDS					
Phenol	< 10	167	< 10	< 10	NA
2,4-dimethylphenol	< 10	479	< 10	< 10	NA

NA = not analyzed

DER-RECEIVED
NORRISTOWN

Woodward-Clyde Consultants

5120 Butler Pike
Plymouth Meeting
Pennsylvania 19462
215-825-3000
Telex 846-343

JAN 23 1986

January 17, 1986
84C2145

*Received
3/4/86
2-21-86
ETD*

Pennsylvania Department of Environmental Resources
1875 New Hope St.
Norristown, PA 19401

Attention: Mr. Philip Rotstein

**THIRD-QUARTER GROUNDWATER SAMPLING RESULTS
PHILADELPHIA COKE PLANT
PHILADELPHIA, PENNSYLVANIA**

Gentlemen:

This letter presents a report of the third-quarter groundwater monitoring results from the four wells at the Philadelphia Coke Plant. The data are presented in accompanying tables and are described briefly below; however, an extensive evaluation of the data is not warranted now, as it has been performed for the first and second quarters' data. Furthermore, a more extensive assessment of the first year's data will be performed after the fourth quarter's data have been collected.

WATER LEVELS

WCC measured water levels in the four onsite monitoring wells on October 15, 1985 (Table 1). As with the water levels from the first two sampling rounds, the third quarter's water level data indicate that the water table is highest near W-2, with a sub-radial flow pattern toward the other wells. The steepest gradient exists toward W-4, which has the lowest water table elevation.

WATER QUALITY

Tables 2 and 3 present the analytical results from the groundwater samples collected on October 15, 1985. The general water quality parameters are



presented on Table 2. These data indicate trends similar to earlier sampling rounds. W-2 generally exhibits the highest concentrations of most parameters. Compared to earlier results, the third-quarter results show relatively consistent levels in W-2, slight decreases in concentration in W-1 and W-3, and a significant improvement in quality in W-4.

Table 3 summarizes the analytical results for the priority pollutant organics. Four volatile organic compounds and ten base/neutral compounds were detected. No acid extractable compounds were detected. No volatiles or base/neutrals were detected in W-3 or W-4, and only three base/neutral compounds were detected in W-1. Three-quarters of the compounds detected in W-2 were detected in the previous samplings, although the concentrations in October are higher than previously determined. All of the compounds detected, with the exception of methylene chloride, are compounds that are related to coal processing operations.

CONCLUSIONS

The data from the third-quarter monitoring are similar to the previous monitoring results, in terms of groundwater flow directions and contaminant chemistry. Following the collection of the next quarter's results, a more detailed assessment of the entire year's data will be performed and presented.

If you have any questions about the data in this report, or need additional data, please do not hesitate to call.

Very truly yours,

WOODWARD-CLYDE CONSULTANTS



Peter R. Jacobson
Project Manager

PRJ/clo/WM18

TABLE 1
GROUNDWATER LEVELS
PHILADELPHIA COKE PLANT
OCTOBER 15, 1985

<u>Well No.</u>	<u>Depth to Water, feet Below Top of Casing</u>	<u>Top of Casing Elevation, feet msl</u>	<u>Water Table Elevation, feet msl</u>	<u>Time Measured, am</u>
W-1	2.43	10.94	8.51	9:25
W-2	4.34	15.31	10.97	9:34
W-3	5.37	14.46	9.09	9:31
W-4	10.36	15.17	4.81	9:39

TABLE 2
SUMMARY OF GENERAL WATER QUALITY ANALYSES
WELLS SAMPLED OCTOBER 15, 1985

<u>Parameter</u>	<u>Units</u>	<u>W-1</u>	<u>W-2</u>	<u>W-3</u>	<u>W-4</u>
Alkalinity, Total	mg/l	62.9	709	47.1	17.9
Ammonia as N	mg/l	42	1520	6.30	0.26
Total Coliforms	Colonies/100 ml	< 2	33	5	>2400
Biochemical Oxygen					
Demand	mg/l	5.6	7.9	0.9	1.0
Total Organic Carbon	mg/l	6.92	4.54	3.10	2.78
Chemical Oxygen					
Demand	mg/l	14.5	1780	14.5	< 7.0
Chloride	mg/l	13.2	1990	17.0	7.3
Cyanide	mg/l	0.086	84	0.025	0.002
Fluoride	mg/l	0.75	2.5	0.28	0.06
Chromium, Dissolved	mg/l	0.001	0.012	0.006	< 0.001
Iron, Dissolved	mg/l	4.5	0.8	0.1	0.2
Manganese, Dissolved	mg/l	6.12	0.29	1.04	0.31
Sodium, Dissolved	mg/l	13	420	41	2.7
Nitrate as N	mg/l	0.97	0.15	15	7.0
Total Organic Halogens	mg/l	< 5	< 5	< 5	< 5
Phenolics	mg/l	< 0.005	3.85	< 0.005	< 0.005
pH	Standard	6.45	8.31	6.15	5.89
Total Dissolved Solids	mg/l	1400	4190	762	218
Specific Conductance	μ mhos/cm@25°C	1620	9750	903	186
Sulfates	mg/l	990	2700	360	32

TABLE 3
 SUMMARY OF PRIORITY POLLUTANT ANALYSES
 RESULTS SHOWN FOR DETECTED PARAMETERS ONLY
 WELLS SAMPLED OCTOBER 15, 1985
 ALL VALUES IN $\mu\text{g/l}$ (ppb)

	<u>W-1</u>	<u>W-2</u>	<u>W-3</u>	<u>W-4</u>	<u>Trip Blank</u>
VOLATILE COMPOUNDS					
Methylene Chloride	9.2	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	< 1.0	86	< 1.0	< 1.0	< 1.0
Toluene	< 0.2	81	< 0.2	< 0.2	< 0.2
Ethylbenzene	< 1.0	43	< 1.0	< 1.0	< 1.0
BASE/NEUTRAL COMPOUNDS					
Anthracene	10.3	< 5	< 5	< 5	NA
Fluoranthene	21	191	< 5	< 5	NA
Pyrene	11	126	< 5	< 5	NA
Naphthalene	< 5	497	< 5	< 5	NA
Phenanthrene	< 5	347	< 5	< 5	NA
Acenaphthylene	< 5	56	< 5	< 5	NA
Acenaphthene	< 5	15	< 5	< 5	NA
Fluorene	< 5	120	< 5	< 5	NA
benzo(b,k)fluoranthene	<25	32 *	<25	<25	NA
benzo(a)pyrene	<25	96	<25	<25	NA

*Benzo(b)fluoranthene and benzo(k)fluoranthene could not be resolved; value shown indicates the sum of both compounds

NA = not analyzed

Green

EPA

3/11/86

Date Prepared

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF SOLID WASTE MANAGEMENT

--	--	--	--	--	--	--	--

I.D. Number

Hazardous Waste Management

Facility Inspection Checklist for Compliance with
Interim Status Standards Covering Ground-Water Monitoring

FORM 4

Facility Name

Phila Coke Co.

County

Phila

Company Address

4501 Richmond St.

Phila, PA 19137

Facility Permit Number

Municipality

Phila

Inspector's Name

Philip Rotstein

Company Contact/Official

James Hogeboom

Title

Plant Engineer

Branch/Organization

Waste Mgmt.

Date of Inspection

1/16/86

Type of facility: (check appropriately)

- a) surface impoundment
b) landfill
c) land treatment facility
d) disposal waste pile*

Yes

No

Unknown

✓

Ground-Water Monitoring Program

1. Was the ground-water monitoring program reviewed prior to site visit?
If "No",a) Was the ground-water program reviewed at the facility prior to
site inspection?2. Has a ground-water monitoring program (capable of determining the
facility's impact on the quality of any ground-water system which the
facility has the potential to affect, or as otherwise deemed necessary
by the Department) been implemented? 75.265(n)(1)3. Has at least one monitoring well been installed hydraulically upgra-
dient from the limit of the waste management area? 75.265(n)(3)(i)a) Are ground-water samples from the upgradient well represen-
tative of background ground-water quality and not affected by
the facility (as ensured by proper well number, locations, and
depths)?

* Listed separate from landfill for convenience of identification.

MAR 17 1986

DIV. OF HAZARDOUS WASTE

	Yes	No	Unknown
4. Have at least three monitoring wells been installed hydraulically downgradient at the perimeter of the waste management area? 75.265(n)(3)(ii)	✓		
a) Do well number, locations, and depths ensure prompt detection of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the groundwater?	✓		
b) Have the locations of the monitoring wells been approved by the Department? 75.265(n)(3)(iii)	✓		
5. Have the locations of the waste management areas been verified to conform with information in the ground-water program?	✓		
a) If the facility contains multiple waste management components, is each component adequately monitored?			
6. Do the numbers, locations, and depths of the ground-water monitoring wells agree with the data in the ground-water monitoring system program? (If "No", explain discrepancies on an attachment.)	✓		
7. Well completion details: 75.265(n)(5) and 75.265(n)(6)			
a) Are wells properly cased?	✓		
b) Are wells screened (perforated) and packed where necessary to enable sampling at appropriate depths?	✓		
c) Are annular spaces properly sealed to prevent contamination of samples and the ground water?	✓		
8. Has a ground-water sampling and analysis plan been developed? 75.265(n)(7)	✓		
a) Has it been followed?	✓		
b) Is the plan kept at the facility?	✓		
c) Does the plan include procedures and techniques for:			
1) Sample collection?	✓		
2) Sample preservation?	✓		
3) Sample shipment?	✓		
4) Analytical procedures?	✓		
5) Chain of custody control?	✓		

	Yes	No	Unknown
9. Are the required parameters in ground-water samples being tested quarterly for the first year? 75.265(n)(8) and 75.265(n)(9)		✓A	
a) Are the ground-water samples analyzed for the following:			
1) Parameters characterizing the suitability of the ground-water as a drinking water supply? 75.265(n)(8)(i)		✓A	
2) Parameters establishing ground-water quality? 75.265(n)(8)(ii)	✓		
3) Parameters used as indicators of ground-water contamination? 75.265(n)(8)(iii)	✓		
(i) Has provision been made for the establishment of initial background concentrations of all parameters in all monitoring wells quarterly during the first year? 75.265(n)(9)		✓A	
(ii) For each indicator parameter, are at least four replicate measurements obtained at each upgradient well for each sample obtained during the first year of monitoring? 75.265(n)(10)		✓	
(iii) Are provisions made to calculate the initial background arithmetic mean and variance of the respective parameter concentrations or values obtained from the upgradient well(s) during the first year? 75.265(n)(10)		✓A	
b) For facilities which have completed first year ground-water sampling and analysis requirements:			
1) Have samples been obtained and analyzed for the ground-water quality parameters at least semi-annually? 75.265(n)(11)(i)			N.A.
2) Have samples been obtained and analyzed for the indicators of ground-water contamination at least quarterly? 75.265(n)(11)(ii)			N.A.
c) Were ground-water surface elevations determined at each monitoring well each time a sample was taken? 75.265(n)(12)	✓		
d) Were the ground-water surface elevations evaluated at least annually (by January 31) to determine whether the monitoring wells are properly constructed? 75.265(n)(17)		✓	N.A.
e) If it was determined that modification of the number, location, or depth of monitoring wells was necessary, was the system brought into compliance with 75.265(n)(3)? 75.265(n)(17)			N.A.
f) Prior to any construction modification, were any proposed changes approved in writing by the Department? 75.265(n)(17)			N.A.

	Yes	No	Unknown
10. Has an outline of a ground-water quality assessment and abatement program been prepared? 75.265(n)(13)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a) Does it describe a program capable of the following:			
1) Determining which hazardous waste or hazardous waste constituents have entered the ground water? 75.265(n)(13)(i)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) Determining the rate and extent of migration of hazardous waste or hazardous waste constituents in ground water? 75.265(n)(13)(ii)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Determining concentrations of hazardous waste or hazardous waste constituents in ground water? 75.265(n)(13)(iii)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) Abating any ground-water contamination attributable to the hazardous waste management facility? 75.265(n)(13)(iv)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) After the first year of monitoring, have at least four replicate measurements of each indicator parameter been obtained for samples taken from each well monitored? 75.265(n)(14)	<input type="checkbox"/>	<input type="checkbox"/>	<u>N.A.</u>
1) Were the results compared with the initial background means from the upgradient well(s) determined during the first year?	<input type="checkbox"/>	<input type="checkbox"/>	<u>N.A.</u>
(i) Was each well considered individually?	<input type="checkbox"/>	<input type="checkbox"/>	<u>N.A.</u>
(ii) Was the Student's t-test used at the appropriate level of significance (see Chapter 75, Subchapter D, Appendix III)?	<input type="checkbox"/>	<input type="checkbox"/>	<u>N.A.</u>
2) Was a significant increase (or pH decrease as well) found in the:			
(i) Upgradient wells	<input type="checkbox"/>	<input type="checkbox"/>	<u>N.A.</u>
(ii) Downgradient wells	<input type="checkbox"/>	<input type="checkbox"/>	<u>N.A.</u>
<i>If "Yes", Hazardous Waste Management Form 5 must also be completed.</i>			
11. Have records been kept of the analyses required in paragraphs 75.265(n)(9) through 75.265(n)(11)? 75.265(n)(18)(i)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have records been kept of ground-water surface elevations taken at the time of sampling for each well (75.265(n)(12))? 75.265(n)(18)(i)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Have records been kept of required elevations in indicator parameters (75.265(n)(14))? 75.265(n)(18)(i)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

14. Has the following ground-water information been reported to the Department: 75.265(n)(18)(ii)

(a)(i)	During the first year, initial background concentrations of parameters listed in 75.265(n)(8)(i) within 15 days after completing each quarterly analysis required during the first year?	_____	_____✓_____	_____
(ii)	For each well, have any parameters whose concentrations or values have exceeded the maximum contaminant levels allowed in drinking water supplies been separately identified?	_____✓_____	_____✓_____	_____
(b)(i)	Semi-annual measurements of the parameters establishing ground-water quality (75.265(n)(8)(ii)) for each ground-water monitoring well taken at the end of the first (April 1) and third (October 1) quarters?	_____	_____	_____N.A._____
(ii)	Have any significant differences from the initial background found in the wells been separately identified?	_____✓_____	_____	_____N.A._____
(iii)	Has this information been submitted as part of the quarterly report (75.265(m)) for those facilities receiving hazardous waste from off-site sources?	_____	_____	_____N.A._____
(c)(i)	Quarterly measurement of the parameters used as indicators of ground-water contamination (75.265(n)(8)(iii)) and the required evaluations of these parameters under 75.265(n)(14)?	_____✓_____	_____	_____
(ii)	Have any significant differences from initial background found in the upgradient wells been separately identified and included in the quarterly submission?	_____	_____	_____N.A._____
(d)(i)	Quarterly results of the evaluation of ground-water surface elevations under 75.265(n)(17)?	_____	_____✓_____	_____
(ii)	If applicable, has a description of the response to that evaluation been included?	_____	_____	_____N.A._____

Phila Coke Co.

Inspection conducted 1/16/86 for the expressed purpose of discussing the proposed soil sampling program to be implemented in the vicinity of the decanter for sludge lagern area.

The actual written plan is still outstanding. The facility should be requested to submit the plan within a specific period of time. A reasonable time frame would be 30 days from receipt of a final notice.

The plan shall outline procedures and techniques for the collection of representative soil/fill and/or waste samples to document to completeness of the approved closure procedure. Valid questions have been raised in the past regarding the adequacy of closure in terms of waste ^{study} and contaminated soils removal. Partly because DER personnel were not present during the process.

The procedure will consist of the placement of a series of core borings within estimated lagern boundaries. Samples will be collected at discrete intervals and a select no. will be shipped to an appropriate laboratory for chemical analysis.

Results will confirm the adequacy of the closure procedure. If significant levels of indicator constituents are detected, then remedial measures must ensue.

Results of three quarters of monitoring indicate elevated levels of coal tar constituents in $\mu\text{m}2$ located in close proximity of the impoundments.

Replicate measurements of parameters used as indicators of groundwater contamination have not been taken as required.

It's agreed the facility, analyzed samples for the full series of RCRA parameters for the first two quarters of the background year. The last two, will involve a reduced no. of parameters deemed unnecessary such as pesticides, herbicides and radiologic parameters. The constituents of primary concern have been well established through extensive correspondence of three quarters of analytical data. Another reason for delaying this variance ~~was~~ related to closure of the facility. The monitoring program came in to being after closure was achieved.

At the end of the first year of monitoring, the consistent is to provide a status report containing an interpretation of the 1st years data and recommendations for the 2nd years program. Evidence of groundwater contamination associated with the largest discharge is already exists, therefore

Consideration should be given, at some point, to
active graduates to research/treatment if a
constant trend in levels of contaminants persists.
over time.
I fail to see the need for statistical
analysis at this time given the nature of contaminants.
Therefore, the facility could be placed in an
assessment/abatement mode during the post
closure period. This matter should be discussed
with facility representatives after the 1st year's
monitoring report has been evaluated.

HAZARDOUS WASTE INSPECTION REPORT
TSD Facilities - Part A

Green

HBG

Date of inspection 1/16/86 Time start 10:00 Time finish 12:00
Name of inspector Michael M. Bobek
Company, installation name Philadelphia Coke Co.
Location 4501 Richmond St.
County Phila. Municipality Phila.
Identification number PAD 000427906
Name of responsible official James Hogeboom
Title V.P. of Operations
Mailing address P.O. Box 6561, Mesa, Arizona 85206
Area code and phone no. -
Name of person interviewed Ed Gallagher, Pete Jacobsen, James Hogeboom, P. Kipin
Title Security Guard, Woodward, VP of Operations, Kipin Industries
Mailing address (if different from above) 4501 Richmond St., Phila, PA. 19137
Area code and phone no. -

1. Site characterization:

- a. ☐ Treatment - ☐ surface impoundments, ☐ chemical, ☐ physical, ☐ biological
b. ☒ Storage - ☐ containers, ☐ tanks, ☒ surface impoundments, ☐ waste piles
c. ☐ Disposal - ☐ land treatment, ☐ landfill, ☐ incineration, ☐ thermal treatment
d. ☐ Use, ☐ reuse, ☐ recycle, ☐ reclaim

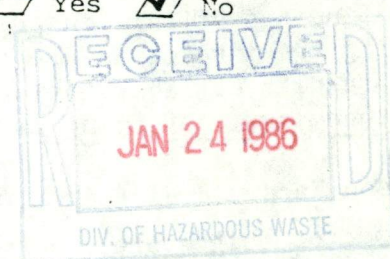
2. Does the facility generate hazardous wastes? ☐ Yes ☒ No

3. Types of hazardous waste produced by Hazardous Waste Number:

None produced at this time

K087, 0003

4. Are hazardous wastes transported off-site by the facility? ☐ Yes ☒ No



HAZARDOUS WASTE INSPECTION REPORT
Part C - Comments

Date of Inspection 1/16/86 Identification Number PAD 0009 27906
Company, Installation Name Philadelphia Coke Co.
County Phila. Municipality Phila.

Closure of facility is proceeding. Mr. Kipin is waiting for blasting permits from the City in order to continue demolition.

A meeting was conducted with Messrs. Hogeboom, Jacobsen, Kipin, P. Rotstein & M. Bobek to identify soil sampling points for the decenter tank pits, adjacent lagoon and the tar plains.

It is anticipated that Woodward-Clyde will be preparing the soil sampling proposals for submission to DER by mid-February. An additional sampling area was located on-site with Mr. Hogeboom where tar and lime material was mixed.

The location of a cross-site industrial sewer line approx 12' diameter was identified, but its impact on the groundwater monitoring well near the present guard house^(#4) was not determined during this inspection. Currently, the next quarterly sampling is scheduled for March.

There was discussion concerning the need for the site operator & the consultant to closely coordinate with DER when the soil sampling is conducted since visual determinations of contamination may be made at the sampling time.

This inspection report is official notification that a representative of the Department of Environmental Resources, Bureau of Solid Waste Management, inspected the above installation. The findings of this inspection are shown in this report. Any violations which were uncovered during the inspection are indicated. Violations may also be discovered upon examination of the results of laboratory analyses and review of Department records. Notification will be forthcoming, confirming any violations indicated herein and listing any additional violations.

Person Interviewed (signature) Sent to Jim Hogeboom 1/17/86 Date 1/16/86
Inspector (signature) Michael M. Bobek Date 1/16/86

HAZARDOUS WASTE INSPECTION REPORT
Generators - Part A

Date of inspection 1/16/86 Time start 10:00 Time finish 12:00
Name of inspector Michael M. Bobek
Company, installation name Philadelphia Coke Co.
Location 4501 Richmond St.
County Phila Municipality Phila.
Identification number PAD 000427906
Name of responsible official James Hogeboom
Title V.P. of Operations
Mailing address P.O. Box 6561, Mesa, Arizona 85206
Area code and phone no. -
Name of person interviewed Ed Gallagher, Peter Jacobson, James Hogeboom, Peter Kipm
Title Security Guard, Woodward, VP of Operations, Kipm Industries
Mailing address (if different from above) 4501 Richmond St, Phila, PA 19137
Area code and phone no. -

1. Current waste handling method:

- a. ☐ On-site ☐ treatment ☐ storage, ☐ disposal
b. ☐ On-site ☐ use, ☐ reuse, ☐ recycle, ☐ reclaim
c. ☐ Off-site ☐ treatment, ☐ storage, ☐ disposal
d. ☐ Off-site ☐ use, ☐ reuse, ☐ recycle, ☐ reclaim

2. Amount of hazardous waste produced:

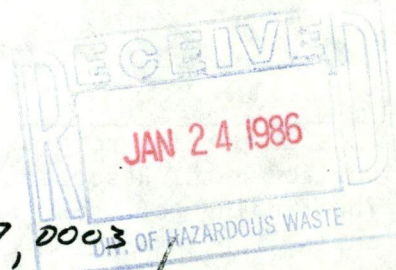
- a. - kg./mo.
b. - kg./yr.

3. Types of hazardous waste produced by Hazardous Waste Number:

None produced at this time

K087, 0003

4. Are hazardous wastes transported off-site by the generator? ☐ Yes ☒ No



HAZARDOUS WASTE INSPECTION REPORT
Part C - Comments

Green

PAD 0004-77906

Date of Inspection 1/16/86 Identification Number _____
Company, Installation Name Philadelphia Coke Co.
County Phila. Municipality Phila.

Closure of facility is proceeding. Mr. Kipin is waiting for blasting permits from the City in order to continue demolition.

A meeting was conducted with Messrs. Hogeboom, Jacobsen, Kipin, P. Rotstein & M. Bobek to identify soil sampling points for the recaster tank pits, adjacent lagoon and the "tar plains".

It is anticipated that Woodward-Clyde will be preparing the soil sampling proposals for submission to DER by mid-February. An additional sampling area was located on-site with Mr. Hogeboom where tar and lime material was mixed.

The location of a cross-site industrial sewer line approx 12' diameter was identified, but its impact on the groundwater monitoring well near the present guard house^(#4) was not determined during this inspection. Currently, the next quarterly sampling is scheduled for March.

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This inspection report is official notification that a representative of the Department of Environmental Resources, Bureau of Solid Waste Management, inspected the above installation. The findings of this inspection are shown in this report. Any violations which were uncovered during the inspection are indicated. Violations may also be discovered upon examination of the results of laboratory analyses and review of Department records. Notification will be forthcoming, confirming any violations indicated herein and listing any additional violations.

Sent to Tim Hogeboom 1/17/86

Person Interviewed (signature) _____ Date _____
Inspector (signature) Michael M. Bobek Date 1/16/86

5120 Butler Pike
Plymouth Meeting
Pennsylvania 19462
215-825-3000
Telex 846-343

DER-RECEIVED
NORRISTOWN

OCT 3 1985

Woodward-Clyde Consultants

September 26, 1985
84C2145

Mr. Philip Rotstein, Hydrogeologist
Pennsylvania Department of Environmental Resources
Bureau of Solid Waste Management
1875 New Hope Street
Norristown, PA 19401

Dear Mr. Rotstein:

Enclosed is a copy of Woodward-Clyde Consultants' report on the hydrogeologic investigation of the Philadelphia Coke Plant, Philadelphia, Pennsylvania. This report is submitted by WCC on behalf of Philadelphia Coke Company, Inc., and presents the analytical results of the second round of groundwater sampling conducted June 26, 1985.

Included in this report are comparisons of the analytical data of the first and second quarters. It was noted that several groups of compounds were not detected or did not fluctuate in either quarter and have thus been recommended for omission from future analyses. The list of these compounds recommended for omission may be found on Page 7 of the enclosed report. In order to maintain a timely schedule for the collection of the third-quarter groundwater samples, we would appreciate a prompt response by the PADER to the suggested compound deletions.

Please contact us if you have any questions or comments.

Very truly yours,

WOODWARD-CLYDE CONSULTANTS

Theodore W. Taylor

Theodore W. Taylor
Senior Staff Geologist

TWT/clo/12A

cc: J. Hogeboom
C. Kufts
P. Jacobson



**SECOND QUARTER GROUNDWATER SAMPLING RESULTS
PHILADELPHIA COKE PLANT
PHILADELPHIA, PENNSYLVANIA**

Submitted to:

PHILADELPHIA COKE COMPANY, INC.

Prepared by:

WOODWARD-CLYDE CONSULTANTS

Plymouth Meeting, Pennsylvania

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INTRODUCTION

A year-long, baseline investigation of the hydrogeology of the Philadelphia Coke Plant has been undertaken in order to assess the extent of any groundwater contamination at the plant site. This investigation is based on the chemical analyses of groundwater samples obtained on a quarterly basis. The results of the first quarter groundwater sampling have been presented in our report dated June 7, 1985. This report was then submitted to the Pennsylvania Department of Environmental Resources (PADER) on July 16, 1985.

The second quarter groundwater samples were collected on June 26, 1985 and the analytical results are presented in this report. Comparisons of these data with the previous data are made. Interpretations and conclusions concerning the extent of contamination and possible off-site migration are also discussed and re-evaluated.

GROUNDWATER CHARACTERISTICS

GROUNDWATER FLOW REGIME

Groundwater levels were measured in each of the four monitoring wells prior to sampling on June 26, 1985. A second round of measurements was obtained after most of the wells had had time to fully recover to determine if significant tidal effects from the Delaware River exist in this aquifer. The elevations of the water table are presented in Table 1. From these elevations, the potentiometric surface indicating groundwater flow directions was contoured and is shown on Plate 1.

Plate 1 illustrates that the groundwater at the plant site flows radially outward from a central high located near Well W-2. This pattern of groundwater flow for June 26, 1985 is consistent with that for April 8, 1985 during the first quarter round of sampling. The average elevation of the water table is essentially the same for both dates. The hydraulic gradients across the plant site have also remained unchanged from April to June. The gradient is considerably steeper from Well W-2 northwestward to Well W-4

than it is from Well W-2 southeastward to the Delaware River (toward Wells W-1 and W-3). The interpretations concerning the possible causes of the radial pattern of groundwater flow are discussed in our June 7, 1985 report. A more definitive understanding of the causes of this radial flow pattern is not possible without the installation of several additional monitoring wells.

As with the April, 1985 data, tidal effects of the Delaware River on the elevation of the water table aquifer appear to be minimal. Table 1 confirms that negligible differences exist between two water level measurements obtained during different stages of a tidal cycle.

SAMPLE COLLECTION

Prior to sample collection, each well was purged of approximately three well volumes to ensure the collection of a representative groundwater sample. Purging was accomplished using a stainless steel bailer. After purging, the groundwater sample was collected also with a stainless steel bailer. Once the samples were obtained, they were placed on ice and transported directly to the laboratory. The samples for metals were filtered with a 0.45-micron filter before being placed in an acidified sample bottle. All equipment used during purging and sampling was steam-cleaned between wells to prevent cross-contamination.

ANALYTICAL RESULTS

The second quarter groundwater samples were analyzed for the compounds listed in Table 2. The results of the chemical analyses are summarized in Tables 3 and 4 according to priority pollutant compounds and water quality parameters respectively. The raw data from the laboratory have been included as Appendix A. For comparison, the analytical summary tables of the June 7, 1985 report have been provided as Appendix B. Discussions of pertinent results are presented below.

PRIORITY POLLUTANT COMPOUNDS

For the second quarter, fourteen priority pollutant organic compounds were detected in the monitoring wells at the plant site (Table 3). No organic compounds were detected above the laboratory detection limits in Well W-3. Only bis (2-ethylhexyl)phthalate (a constituent of PVC well pipe) was detected in Well W-4. Wells W-1 and W-2 contained some volatile organic compounds, notably benzene and toluene, and several base/neutral compounds in low concentrations. Well W-2 also contained the volatile organic compound ethylbenzene. The only acid-extractable compounds detected were phenol and 2,4-dimethylphenol in Well W-2.

Volatile Organic Compounds: Consistent with the first quarter analyses, the groundwater near Well W-2 is the most contaminated with respect to organic compounds. The acid-extractable and volatile compounds detected in W-2 are the same for both sampling rounds. The volatile compounds, benzene, toluene, and ethylbenzene have a total concentration of 315.1 parts per billion (ppb) in June and a total concentration of 206 ppb in April. Since compound concentrations are generally discussed in terms of orders of magnitude, this is not a significant increase in volatiles from April to June. The relative concentration of these three compounds is also unchanged with benzene being the most abundant, followed by toluene and then ethylbenzene.

Acid Extractable Compounds: The acid compounds, phenol and 2,4-dimethylphenol, were detected in Well W-2 for both sampling rounds. These two compounds had a total concentration of 276 ppb in June and 30,310 ppb in April. This is a significant drop by two orders of magnitude in total concentration from April to June. Possible causes of this decrease include:

- 1) the drop in concentration is real and the contaminants are actually becoming less abundant with time,
- 2) non-aqueous liquids may be present as a second phase discrete from the groundwater,

- 3) laboratory inconsistencies are being recorded, or
- 4) seasonal variations in recharge through the source area may be reflected in groundwater concentrations.

The possibility that there is a real decrease in acid compound concentrations from April to June is valid in that without the Coke Plant operating, the source of contamination has been eliminated and concentrations should naturally decrease with time. Further quarterly analytical results will aid in resolving longer-term trends. Such sampling will also help to ascertain the possibility of seasonal fluctuations.

It is possible that, for such a large decrease to have occurred, non-aqueous, second-phase fluids are present. During the next round of sampling, measures will be taken in an attempt to identify the presence of these fluids. This will include obtaining a separate sample from the bottom of the well (not to be analyzed by the laboratory) in a clear glass jar and noting any second phase separation of the liquid collected.

The possibility that the large decrease is a result of laboratory error is unlikely due to the laboratory's quality control assurances, as documented in RMC Labs' QA/QC manual, previously submitted to PA DER. Additional analyses for the third and fourth quarters should elucidate any problems within the laboratory.

Base/Neutral Compounds: Eight base/neutral compounds were detected in Well W-2, and five were detected in Well W-1 for the June groundwater samples (Table 3). This compares with only two compounds detected in Well W-2 and none in Well W-1 for the April groundwater samples. With the exception of acenaphthylene, and the two "bis-2" compounds, all of the compounds are products of coal tar distillation processes. Bis(2-ethylhexyl)phthalate is a known product of the PVC well pipe used for this study. Bis(2-chloroethyl)ether may also be a PVC constituent, but it is known to be constituent of solvents and paint, both of which may have been used at the plant site. Acenaphthylene is a product of combusting aromatic hydrocarbon fuels containing pyridene; such a process is not known to have occurred at the plant site.

WATER QUALITY PARAMETERS

The water quality parameters for June are listed in Table 4. In general, only a few changes in concentration are observed between the April and June results. Most notable are an increase in sodium and chloride in both Wells W-1 and W-4. A sharp decrease of Total Organic Carbon (TOC) occurred in Well W-4 from April to June.

From the second round of water quality analyses presented in Table 4, the following parameters were detected in amounts greater than their respective Primary or Secondary Contaminant Levels in drinking water: nitrate in Well W-3; chloride in Wells W-1 and W-2; iron, cyanide, and coliform in Wells W-1, W-2, and W-4; and alkalinity, ammonia, manganese, sodium, sulfate, and total dissolved solids in all monitoring wells. Several metallic compounds plus herbicides and pesticides have not been detected in either sampling round and are thus recommended for omission from future analyses.

A detailed assessment of the trends in water quality parameters will be provided in the final report upon receipt of the fourth quarter analyses. There is not yet enough data over an extended period of time to accurately assess the few fluctuations noted.

COMPARISON OF RESULTS

Overall, the analytical results of the first and second quarters are similar with respect to the types of compounds found, the concentrations detected, and the location of the contamination at the plant site. For both sampling rounds, Well W-2, located in the center of the plant site, was the most contaminated. The acid and volatile organic compounds detected were also the same for both periods. Also similar is that Wells W-3 and W-4 are relatively clean with no priority pollutant organics being detected above the minimum detection limit.

Differences in the two analyses include the large drop in concentration of acid compounds in Well W-2 and the additional base/neutral compounds detected in Wells W-1 and W-2. Both of these conditions were discussed in the previous section.

The only other significant difference between the sampling rounds is the detection of priority pollutants in Well W-1 in the June analyses. No priority pollutants were detected in this well in April. The contaminants detected in Well W-1 in June (see Table 3) are all products of coal tar distillation and are the identical compounds as those detected in Well W-2. All are present in relatively low concentrations. The detection of contaminants in Well W-1 is not unexpected inasmuch as it is located adjacent to abandoned tar plains.

SUMMARY

The analytical results of the groundwater for the first and second quarter suggest that the contamination at the Philadelphia Coke Plant is limited in both areal extent and compounds present. (Wells W-2 and W-1 are the only wells in which groundwater contamination has been detected.) The contamination is also limited to compounds related to coal processing facilities. The fact that a steeper hydraulic gradient exists between Wells W-2 and W-4 than between Wells W-2 and W-1 and the fact that no contamination has been detected in Well W-4 suggest that the contamination in W-1 is not due to contaminant migration from W-2. This and the analytical results suggest that the Philadelphia Coke Plant is the source of localized groundwater contamination, but that the contaminants are not migrating far from where they were originally stored on the surface in plains and lagoons.

For the June analytical results, the only organic compounds detected which may be of environmental significance are benzene and acenaphthene. Benzene is a concern due to its carcinogenic nature. Acenaphthene, a base/neutral compound detected only in the June analyses, occurs in concentrations of approximately 60 ppb above its standard limit for ambient water. This level will be closely monitored in the following sampling rounds to better assess its possible environmental impact.

RECOMMENDATIONS

The work remaining to be completed for this hydrogeologic assessment of the Philadelphia Coke Plant site includes the collection and analysis of two additional

quarterly rounds of groundwater samples. The next round of sample collection is scheduled for early October, 1985.

Based on the results of the first two quarters, it is recommended that the following parameters be omitted from future analyses:

- Biological Oxygen Demand
- Aluminum
- Arsenic
- Barium
- Lead
- Mercury
- Selenium
- Silver
- All Herbicides
- All Pesticides

These omissions are recommended since the parameters were either not detected, or detected at levels below standard water quality limits.

Tables

TABLE 1
GROUNDWATER ELEVATIONS
JUNE 26, 1985

Well	Water Elevation ⁽¹⁾	Time (a.m.)	Water Elevation	Time (a.m.)
W-1	5.44	7:12	5.44	11:31
W-2	9.39	7:23	—	—
W-3	7.72	7:18	7.76	11:37
W-4	1.80	7:05	1.75	11:25

Note: High tide at approximately 8:30 a.m.

(1) All measurements in feet above mean sea level.

— Not fully recovered

TABLE 2
CHEMICAL PARAMETERS ANALYZED
SECOND QUARTER SAMPLING
JUNE 26, 1985

ORGANIC COMPOUNDS

Volatile Organic Compounds
Base/Neutral Compounds
Acid-Extractable Compounds

PARAMETERS ESTABLISHING GROUNDWATER QUALITY

Chlorides	Phenols
Iron	Sodium
Manganese	Sulfates

PARAMETERS USED AS INDICATORS OF GROUNDWATER CONTAMINATION

pH
TOC (Total Organic Carbon)
Specific Conductance
TOX (Total Organic Halogen)

APPENDIX II PARAMETERS

Arsenic	Mercury	Endrin
Barium	Nitrate	Lindane
Chromium	Selenium	Methoxychlor
Fluoride	Silver	Toxaphene
Lead	Coliform Bacteria	2,4-D
2,4,5-TP		

ADDITIONAL INORGANIC PARAMETERS

Alkalinity	Total Dissolved Solids
Aluminum	BOD
Almmonia as N	COD
Cyanide	

TABLE 3

**SUMMARY OF PRIORITY POLLUTANT ORGANIC COMPOUNDS DETECTED
SECOND QUARTER SAMPLING
JUNE 26, 1985**

Compound(1)	Well				Field Blank	Detection Limit
	W-1	W-2	W-3	W-4		
Acid Compounds						
Phenol	ND	21	ND	ND	ND	10
2,4-dimethylphenol	ND	255	ND	ND	ND	10
Volatile Compounds						
Methylene Chloride	BMDL	BMDL	BMDL	BMDL	BMDL	1.0
Benzene	1.3	234	ND	ND	ND	1.0
Toluene	0.2	76	BMDL	ND	0.2	0.2
Ethylbenzene	ND	5.1	BMDL	ND	BMDL	1.0
Base/Neutral Compounds						
Naphthalene	BMDL	116	ND	ND	ND	5
Acenaphthene	84	76	ND	ND	ND	5
Fluorene	BMDL	58	ND	ND	ND	5
Phenanthrene	13	14	ND	ND	ND	5
Pyrene	9.5	6.5	ND	ND	ND	5
Benz(a)anthracene	14	25	ND	ND	ND	10
Bis(2-ethylhexyl)phthalate	6.7	ND	ND	5.8	ND	5
Bis(2-chloroethyl)ether	ND	33	ND	ND	ND	5
acenaphthylene	ND	32	ND	ND	ND	5

(1) Results in parts per billion (ppb)

BMDL Below Minimum Detection Limit

ND Not Detected

TABLE 4
SUMMARY OF WATER QUALITY PARAMETERS
SECOND QUARTER SAMPLING
JUNE 26, 1985

Parameter	Units	W-1	W-2	W-3	W-4	Field Bank
Alkalinity	mg/l	251	1093	44.2	314	<1.0
Ammonia	mg/l	333	1260	13.1	60.2	<0.02
Coliform, Total	Colonies/ 100 ml	13	2400	1	8	—
Biochemical Oxygen Demand	mg/l	**	**	**	**	**
Total Organic Carbon	mg/l	5.97	7.67	5.51	3.16	1.29
Chemical Oxygen Demand	mg/l	573	1856	57.3	269	<7.0
Chloride	mg/l	416	1633	14.8	152	<3.0
Cyanide	mg/l	38.0	120	0.001	16.8	<0.001
Fluoride	mg/l	1.0	1.5	0.47	0.08	<0.05
Aluminum, Dissolved	mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
Arsenic, Dissolved	mg/l	<0.001	0.026	<0.001	0.008	<0.001
Barium, Dissolved	mg/l	0.5	<0.5	<0.5	0.5	<0.5
Chromium, Dissolved	mg/l	<0.004	0.016	0.002	0.006	0.003
Iron, Dissolved	mg/l	49	2.69	<0.05	62	<0.05
Lead, Dissolved	mg/l	<0.001	<0.001	<0.001	0.002	<0.001
Manganese, Dissolved	mg/l	12	0.71	1.4	4.7	<0.05
Mercury, Dissolved	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium, Dissolved	mg/l	0.005	0.003	0.003	0.004	0.003
Silver, Dissolved	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium, Dissolved	mg/l	144	430	53	184	<0.2
Total Organic Halogens	µg/l	19	69	7	18	29
Herbicides:						
2,4-D	µg/l	2.5	2.5	<1.0	<1.0	<1.0
2,4,5-TP	µg/l	<10	<10	<1.0	<1.0	<1.0
Pesticides:						
Lindane	µg/l	<0.003	<0.03	<0.003	<0.003	<0.002
Endrin	µg/l	<0.022	<0.22	<0.022	<0.022	<0.027
Methoxychlor	µg/l	<0.049	<0.49	<0.049	<0.049	<0.058
Toxaphene	µg/l	<0.098	<0.98	<0.098	<0.098	<0.020
Phenols	µg/l	0.01	3.69	<0.005	0.014	0.005
pH	Standard	6.40	7.45	6.19	6.57	6.05
Total Dissolved Solids	mg/l	2830	3870	921	1320	18
Specific Conductance	µmhos/ cm@ 25°C	4094	9929	1097	1777	1.5
Sulfate	mg/l	1675	2512	420	511	<15
Nitrate	mg/l	<0.005	<0.005	10.5	<0.005	<0.005

** Data not available due to laboratory loss of sample